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THE ARCHITECTS' JOURNAL



standard contents

every issue does not necessarily contain all these contents, but they are the regular features which continually recur

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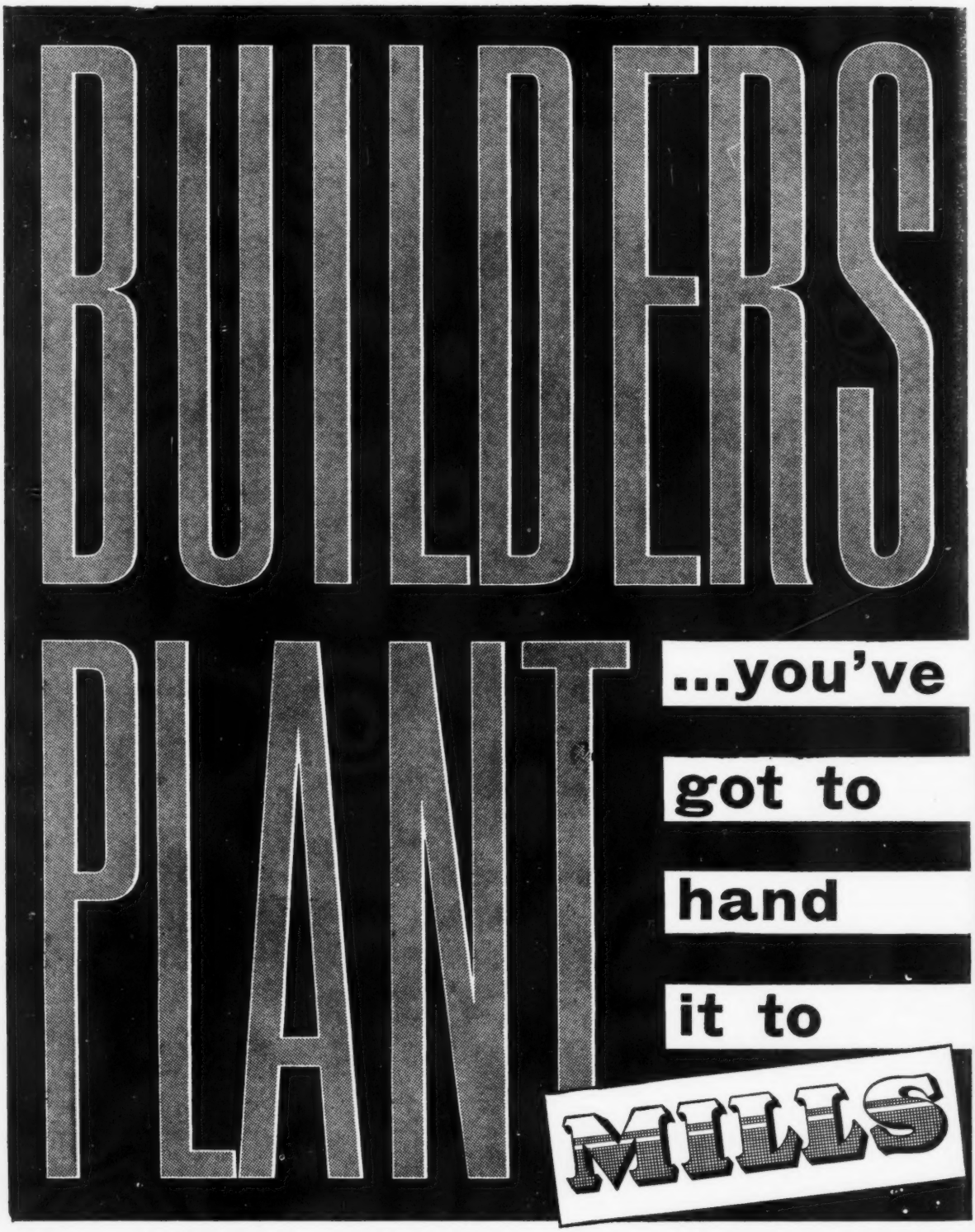
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★ A glossary of abbreviations of Government Departments and Societies and Committees of all kinds, together with their full address and telephone numbers. The glossary is published in two parts—A to Ie one week, Ih to Z the next. In all cases where the town is not mentioned the word LONDON is implicit in the address.

IHVE	Institution of Heating and Ventilating Engineers. 49, Cadogan Square.	Sloane 1601/3158
IIBDID	Incorporated Institute of British Decorators and Interior Designers. 100, Park Street, Grosvenor Square, W.1.	Mayfair 7086
ILA	Institute of Landscape Architects. 2, Guilford Place, W.C.1.	Holborn 0281
I of Arb	Institute of Arbitrators. Hastings House, 10, Norfolk Street, Strand, W.C.2.	Temple Bar 4071
IOB	Institute of Builders. 48, Bedford Square, W.C.1.	Museum 7179
IQS	Institute of Quantity Surveyors. 98, Gloucester Place, W.1.	Welbeck 1859
IR	Institute of Refrigeration. Dalmeny House, Monument Street, E.C.3.	Avenue 6851
IRA	Institute of Registered Architects. 47, Victoria Street, S.W.1.	Abbey 6172
ISE	Institute of Structural Engineers. 11, Upper Belgrave Street, S.W.1.	Sloane 7128
LDA	Lead Development Association. Eagle House, Jermyn Street, S.W.1.	Whitehall 7264/4175
LMBA	London Master Builders' Association. 47, Bedford Square, W.C.1.	Museum 3891
LSPC	Lead Sheet and Pipe Council. Eagle House, Jermyn Street, S.W.1.	Whitehall 7264/4175
MAFF	Ministry of Agriculture, Fisheries and Food. Whitehall Place, S.W.1.	Trafalgar 7711
MOE	Ministry of Education. Curzon Street House, Curzon Street, W.1.	Mayfair 9400
MOH	Ministry of Health. 23, Savile Row, W.1.	Regent 8411
MOHLG	Ministry of Housing and Local Government. Whitehall, S.W.1.	Whitehall 4300
MOLNS	Ministry of Labour and National Service. 8, St. James' Square, S.W.1.	Whitehall 6200
MOS	Ministry of Supply. Shell Mex House, W.C.2.	Gerrard 6933
MOT	Ministry of Transport. Berkeley Square House, Berkeley Square, W.1.	Mayfair 9494
MOW	Ministry of Works. Lambeth Bridge House, S.E.1.	Reliance 7611
NAMMC	Natural Asphalte Mine Owners and Manufacturers Council. 94/98, Petty France, S.W.1.	Abbey 1010
NAS	National Association of Shopfitters. 9, Victoria Street, S.W.1.	Abbey 4813
NBR	National Buildings Record. 31, Chester Terrace, Regent's Park, N.W.1.	Welbeck 0619
NCBMP	National Council of Building Material Producers. 10, Storey's Gate, S.W.1.	Abbey5111
NEFMAI	National Employers Federation of the Mastic Asphalt Industry. 21, John Adam Street, Adelphi, W.C.2.	Trafalgar 3927
NFBTE	National Federation of Building Trades Employers. 82, New Cavendish Street, W.1.	Langham 4041/4054
NFBTO	National Federation of Building Trades Operatives. Federal House, Cedars Road, Clapham, S.W.4.	Macaulay 4451
NFHS	National Federation of Housing Societies. 12, Suffolk St., S.W.1.	Whitehall 1693
NHBRC	National House Builders Registration Council. 58, Portland Place, W.1.	Langham 0064/5
NPL	National Physical Laboratory. Head Office, Teddington.	Molesey 1380
NRDB	Natural Rubber Development Board. Market Buildings, Mark Lane, E.C.3.	Mansion House 9383
NSAS	National Smoke Abatement Society. Palace Chambers, Bridge Street, S.W.1.	Trafalgar 6838
NT	National Trust for Places of Historic Interest or Natural Beauty. 42, Queen Anne's Gate, S.W.1.	Whitehall 0211
PEP	Political and Economic Planning. 16, Queen Anne's Gate, S.W.1.	Whitehall 7245
RCA	Reinforced Concrete Association. 94, Petty France, S.W.1.	Abbey 4504
RIAS	Royal Incorporation of Architects in Scotland. 15, Rutland Square, Edinburgh.	Fountainbridge 7631
RIBA	Royal Institute of British Architects. 66, Portland Place, W.1.	Langham 5721
RICS	Royal Institution of Chartered Surveyors. 12, Great George Street, S.W.1.	Whitehall 5322/9242
RFAC	Royal Fine Art Commission. 5, Old Palace Yard, S.W.1.	Whitehall 3935
RS	Royal Society. Burlington House, Piccadilly, W.1.	Regent 3335
RSA	Royal Society of Arts. 6, John Adam Street, W.C.2.	Trafalgar 2366
RSH	Royal Society of Health. 90, Buckingham Palace Road, S.W.1.	Sloane 5134
RIB	Rural Industries Bureau. 35, Camp Road, Wimbledon, S.W.19.	Wimbledon 5101
SBPM	Society of British Paint Manufacturers. Grosvenor Gardens House, Grosvenor Gardens, S.W.1.	Victoria 2186
SE	Society of Engineers. 17, Victoria Street, Westminster, S.W.1.	Abbey 7244
SFMA	School Furniture Manufacturers' Association. 30, Cornhill, London, E.C.3.	Mansion House 3921
SIA	Society of Industrial Artists. 7, Woburn Square, London W.C.1.	Langham 1984/5
SIA	Structural Insulation Association. 32, Queen Anne Street, W.1.	Langham 7616
SNHTPC	Scottish National Housing. Town Planning Council. Hon. Sec., Robert Pollock, Town Clerk Rutherglen	
SPAB	Society for the Protection of Ancient Buildings. 55, Great Ormond Street, W.C.1.	Holborn 2646
TCPA	Town and Country Planning Association. 28, King Street, Covent Garden, W.C.2.	Temple Bar 5006
TDA	Timber Development Association. 21, College Hill, E.C.4.	City 4771
TPI	Town Planning Institute. 18, Ashley Place, S.W.1	Victoria 8815
TTF	Timber Trades Federation. 75, Cannon Street, E.C.4.	City 5040
WDC	War Damage Commission. 6, Carlton House Terrace, S.W.1.	Whitehall 4341
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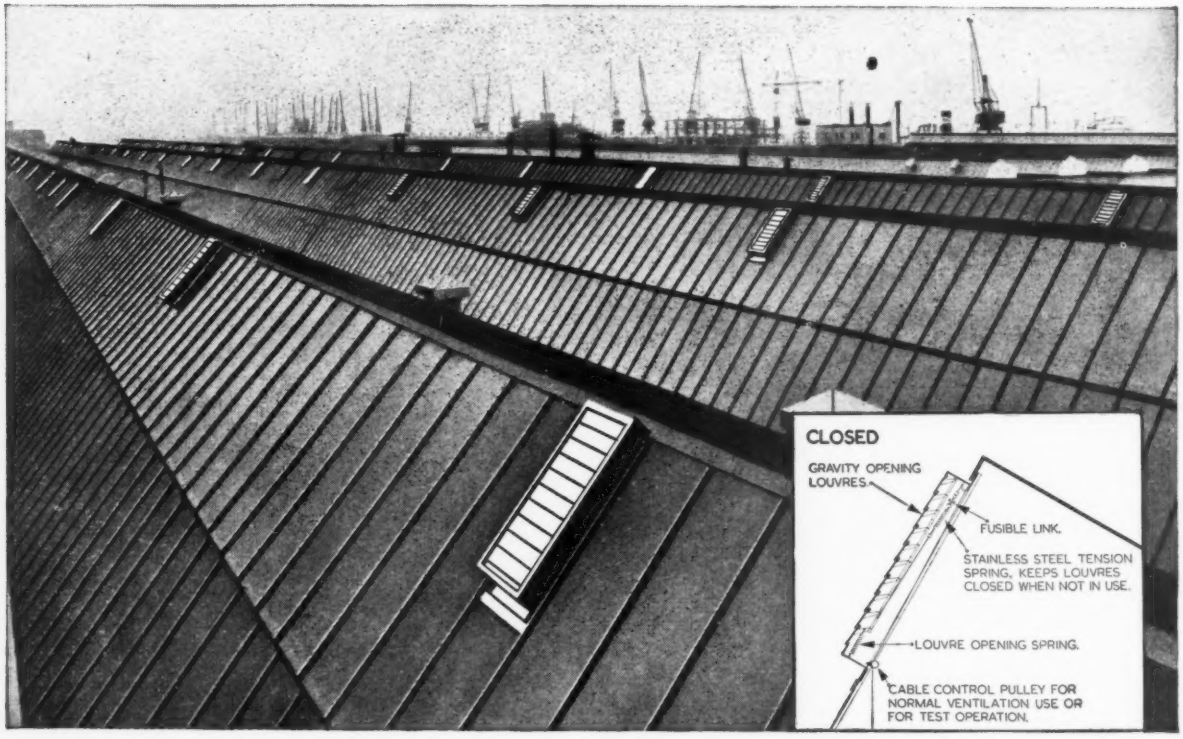
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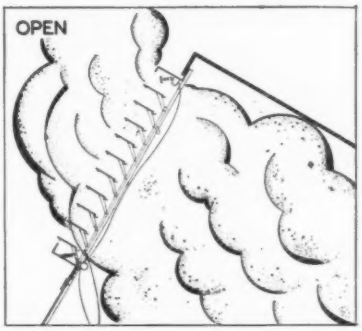
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A study of industrial fires in Great Britain and in America has shown that the primary cause for the spread of fire is the super-heated air, smoke and explosive gases trapped under the roof. They build up in heat and intensity from the fire below and cause flash fires. Furthermore, the smoke rapidly extends downwards, entirely filling the premises and preventing the work of the fire fighters.

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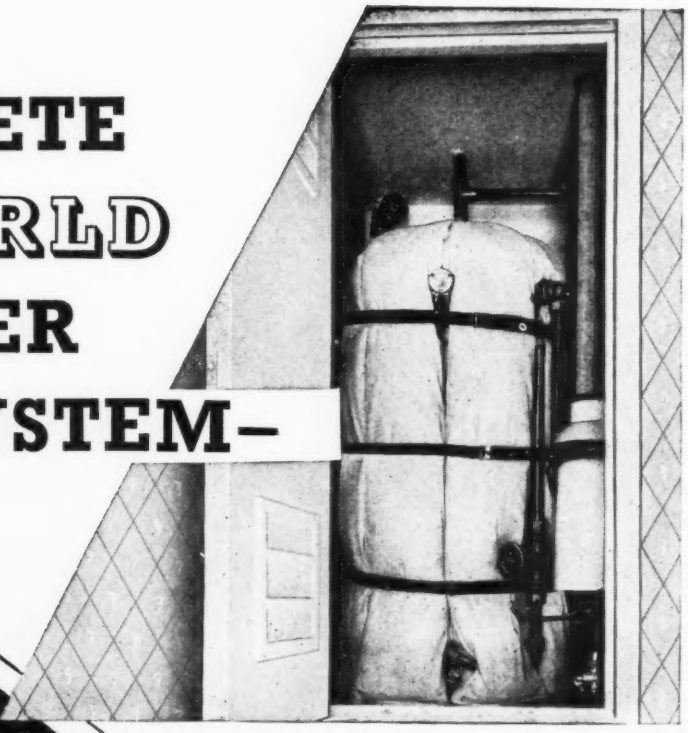
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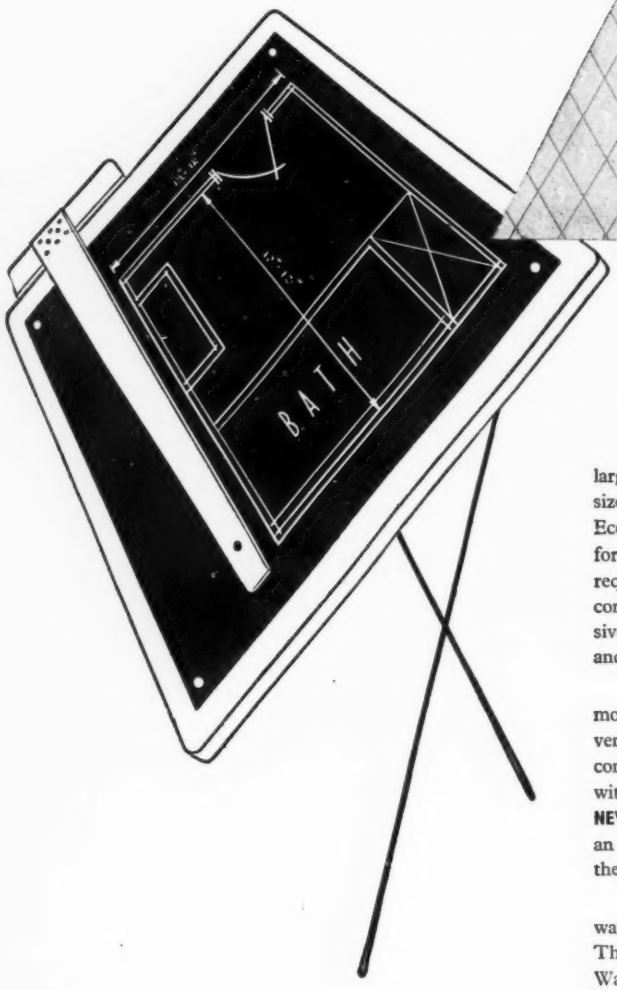
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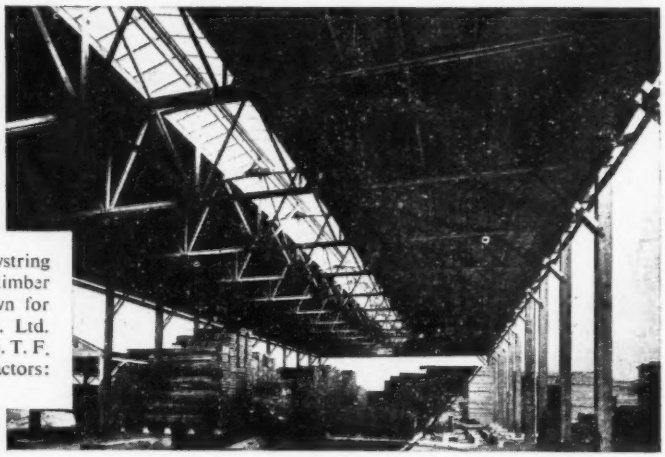
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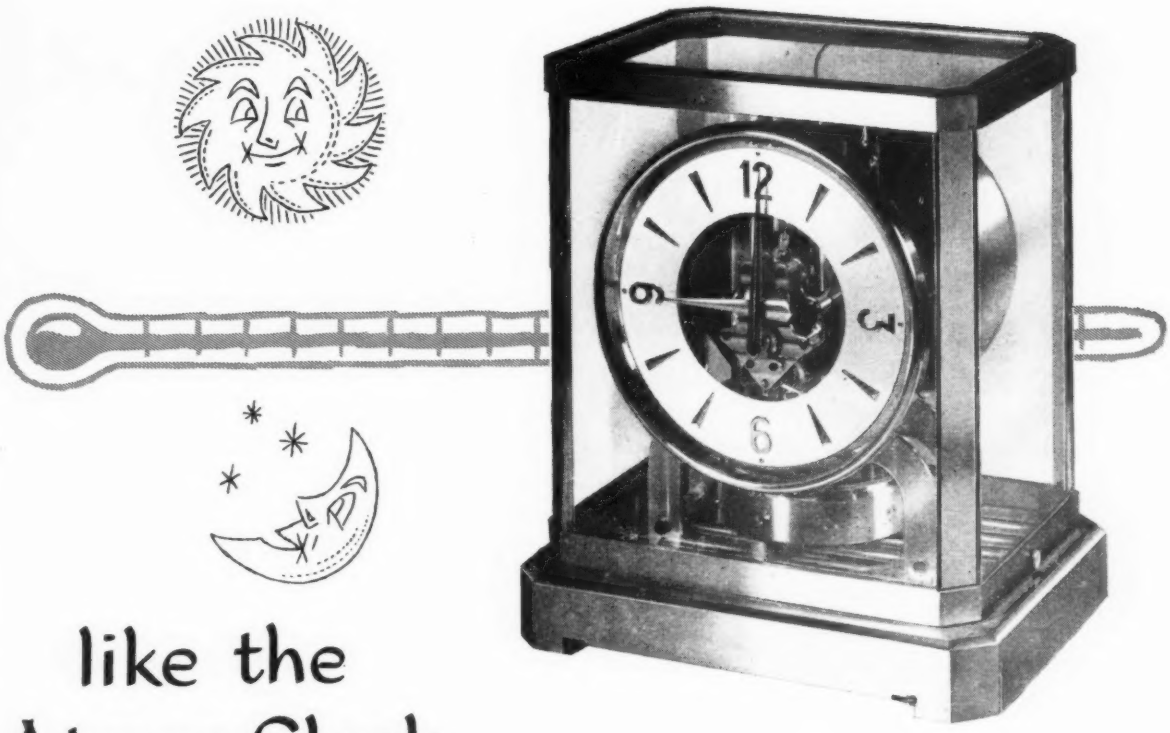
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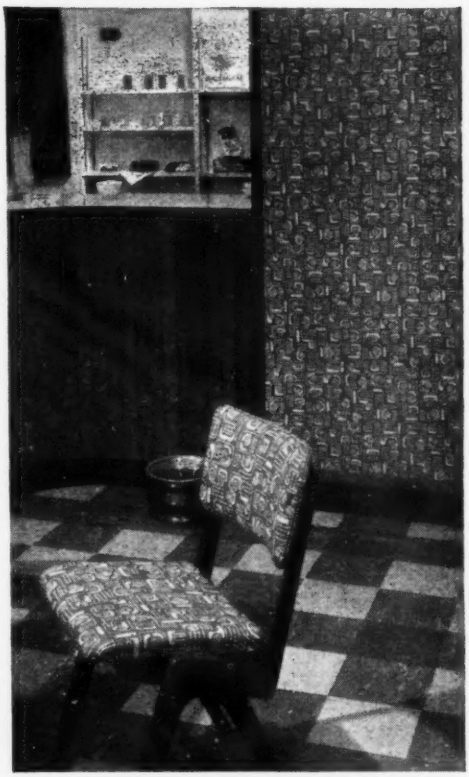
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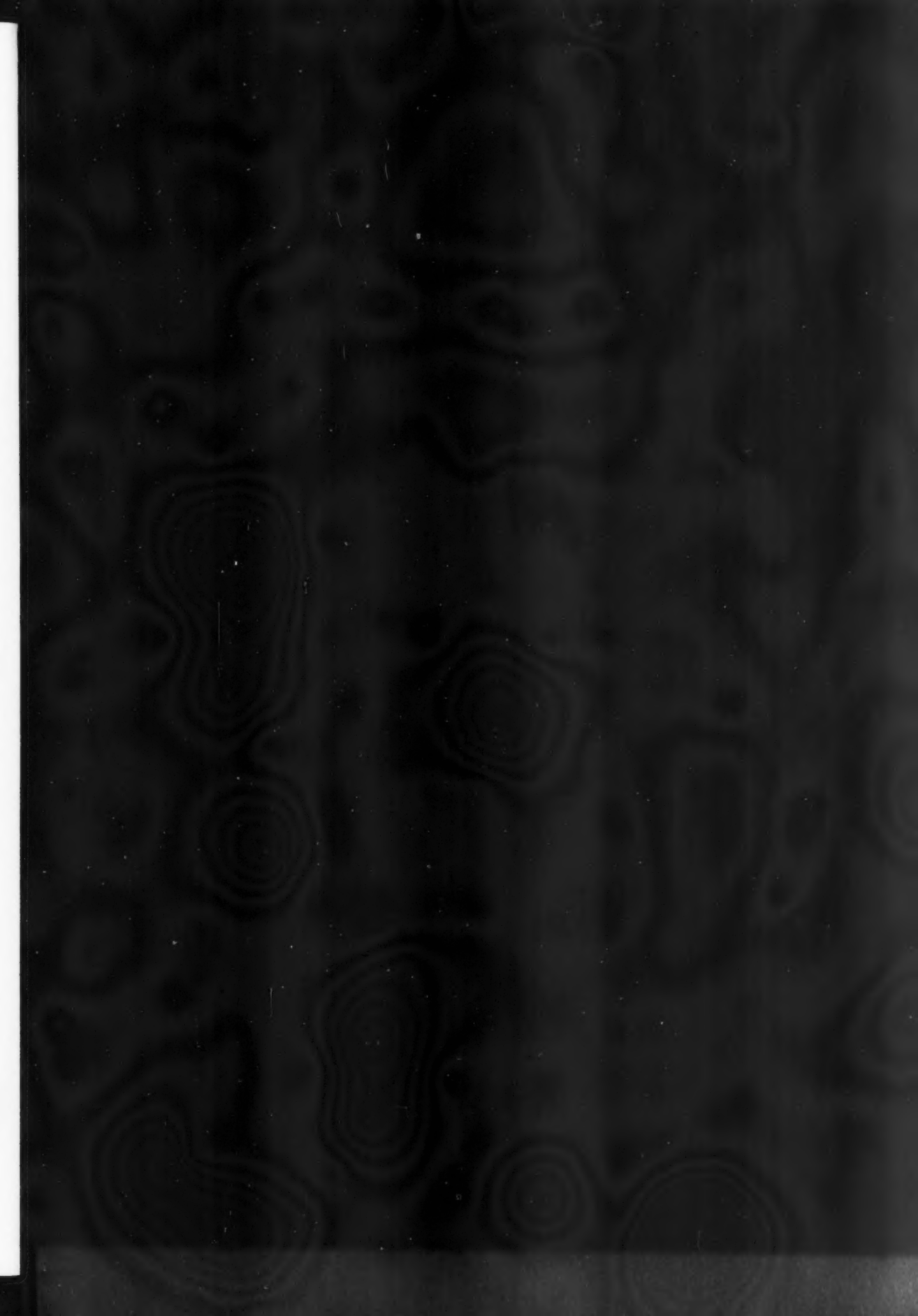
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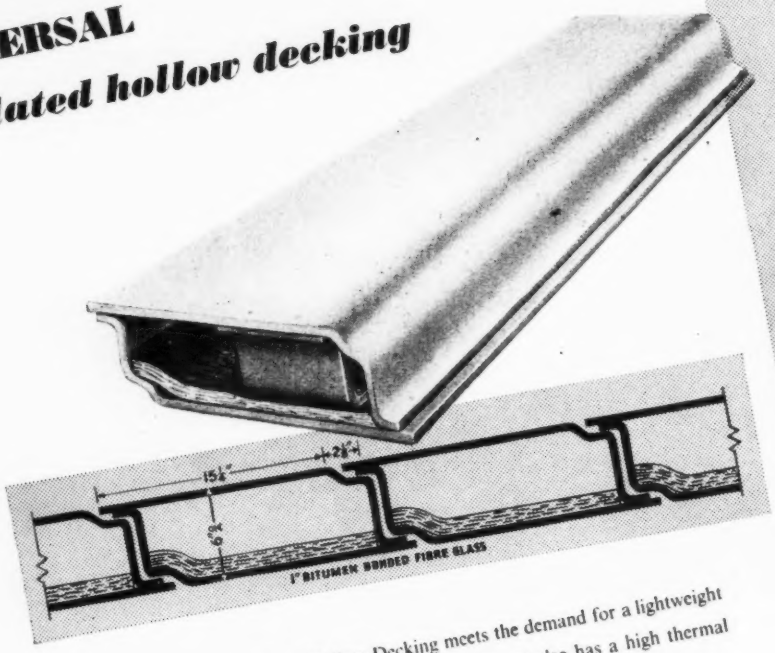
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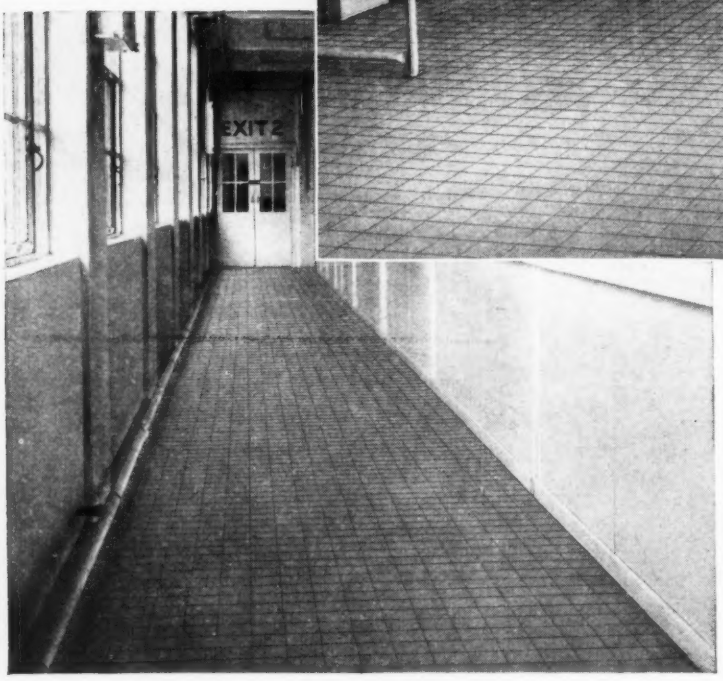
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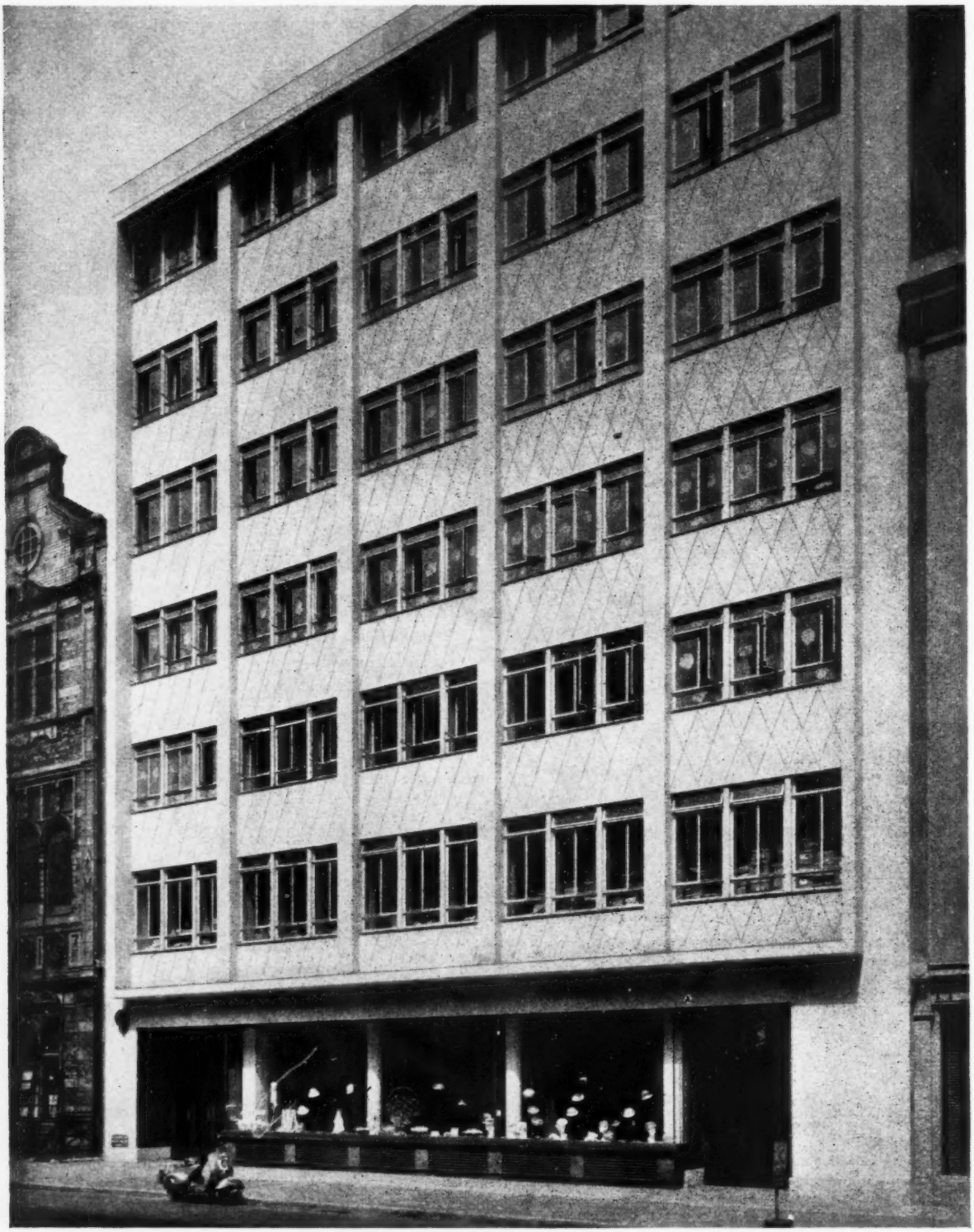
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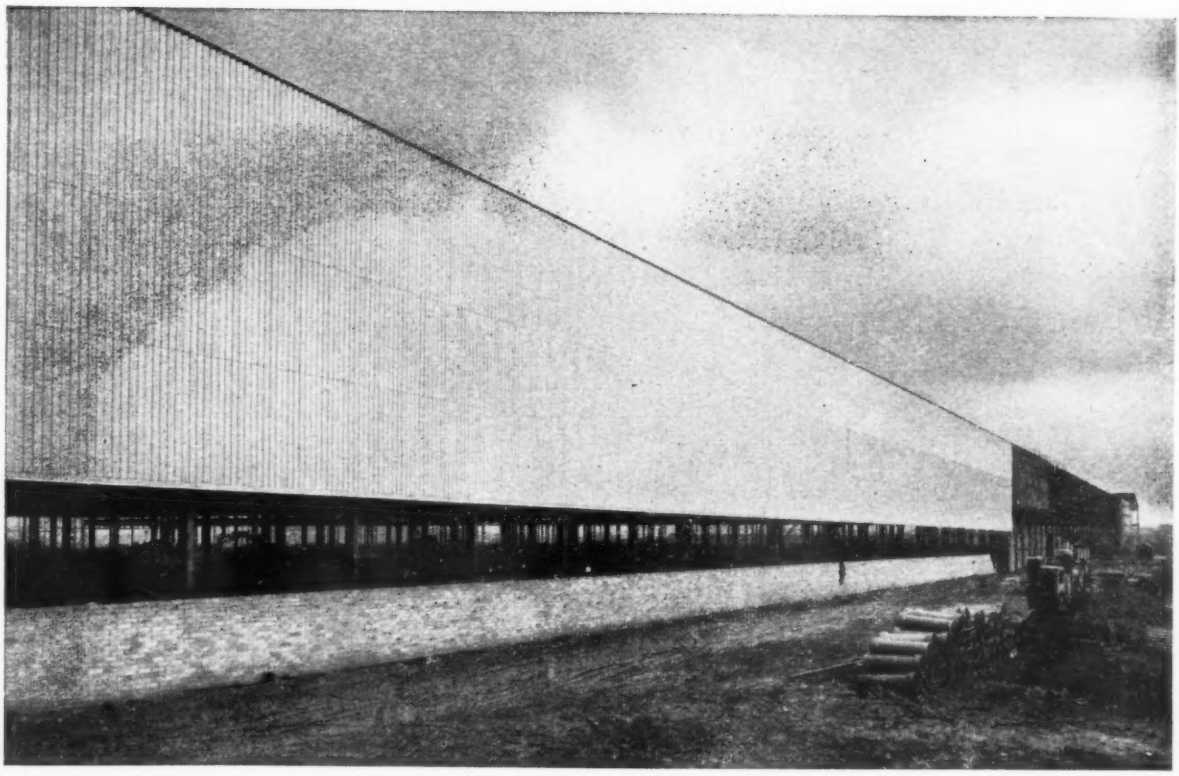


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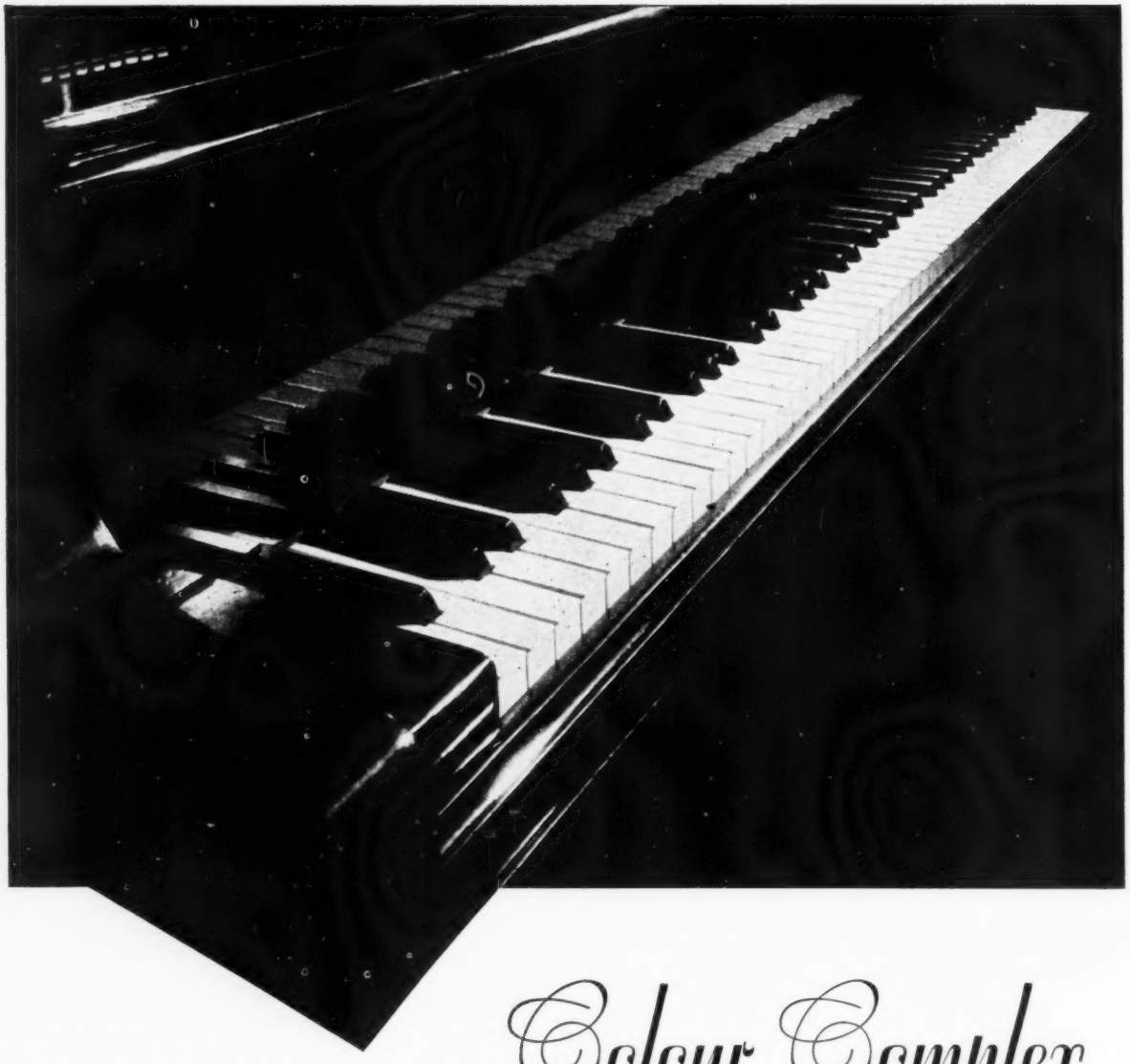
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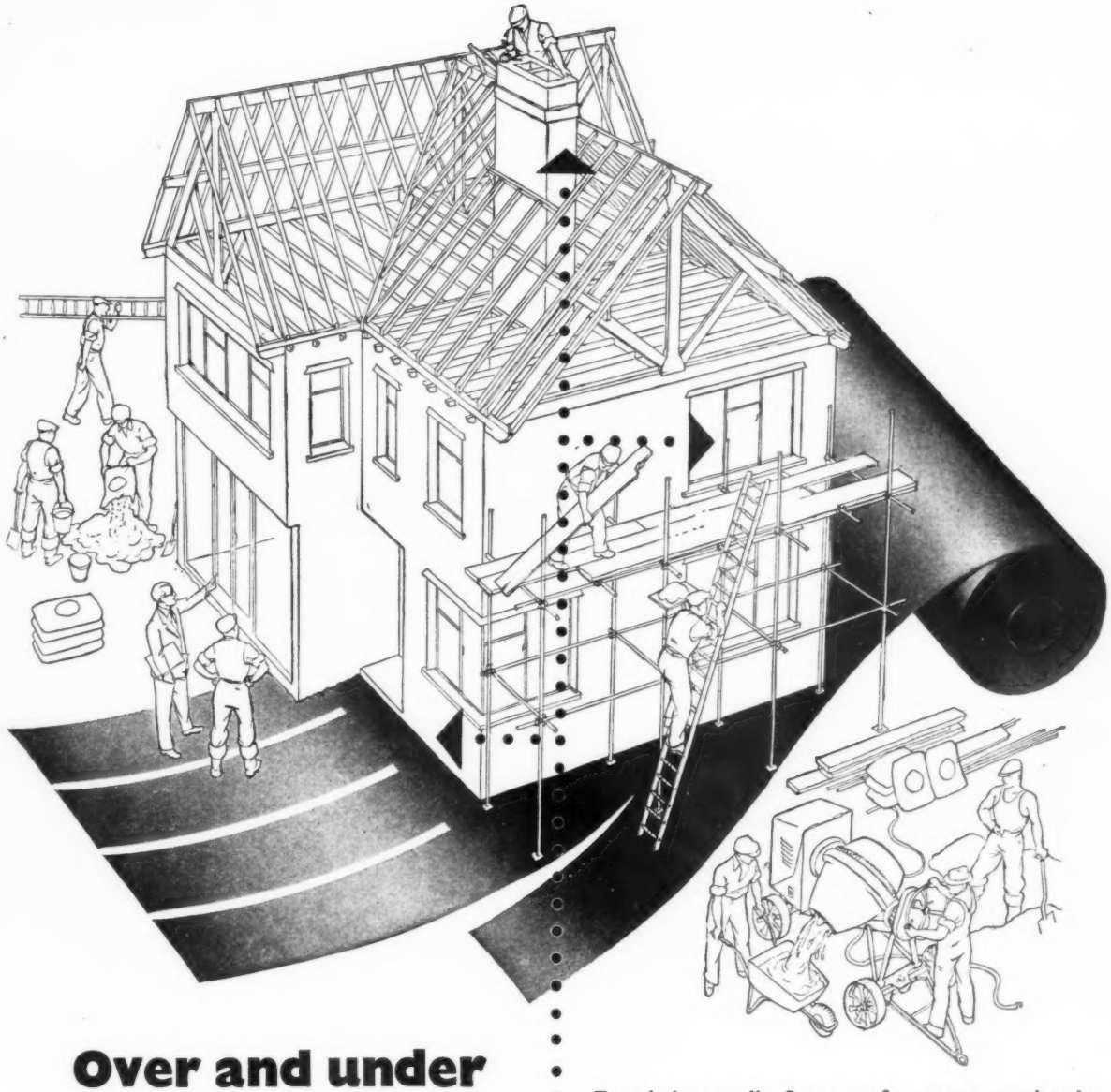
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WATERPROOF BUILDING PAPER

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APPROVED BY THE FIRE OFFICES COMMITTEE

Model 1301 Universal (Royal Navy) Extinguisher . . FOC Ref. NO. 104/6 for Class A fire risks (*fires involving wood, paper, textiles and other carbonaceous substances*).

Model 1400 Air Foam Extinguisher FOC Ref. NO. 104/3 for Class B fire risks (*fires on petrol, greases, oils, paraffin, white spirit and diesel oil*).

Model 1003 Auto (CTC) Extinguisher FOC Ref. NO. 104/5 for Class C fire risks (*minor electrical risks and small petrol fires*).

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(British Standard Code of Practice C.P. 402.401 (1951) is published on behalf of the Council for Codes of Practice for Buildings by the British Standards Institution.)
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all 2-gallon Nu-Swift extinguishers can be recharged and back in use in 30 seconds.

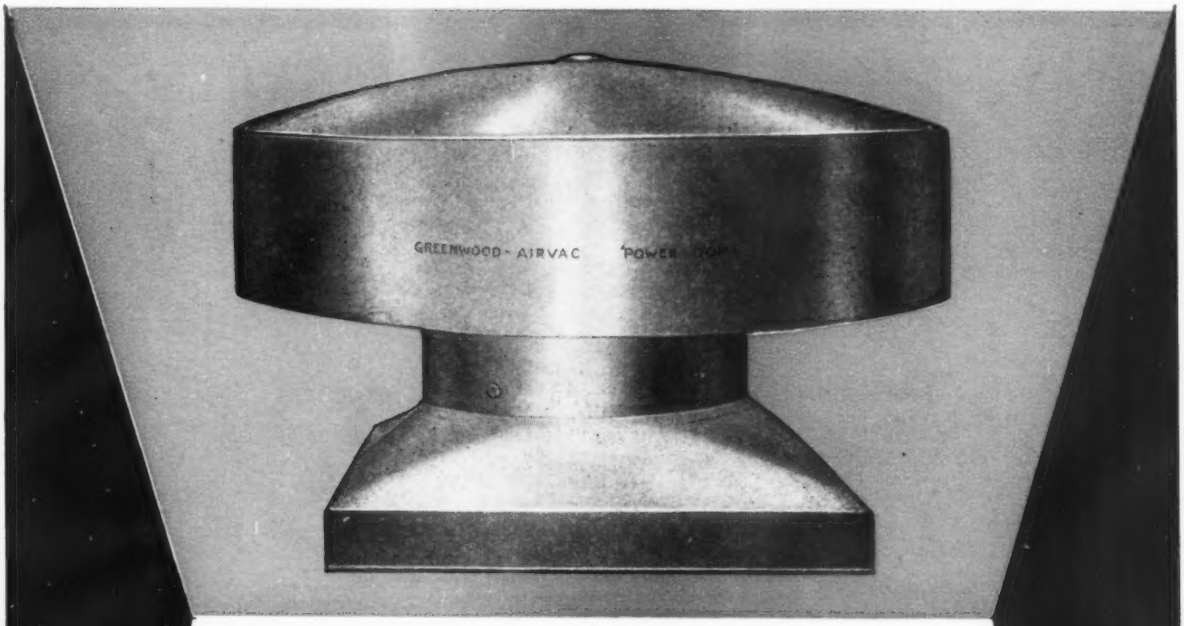
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Nu-Swift extinguishers are used in the commonsense upright position. There are distinctive colours for the models for different fire risks.

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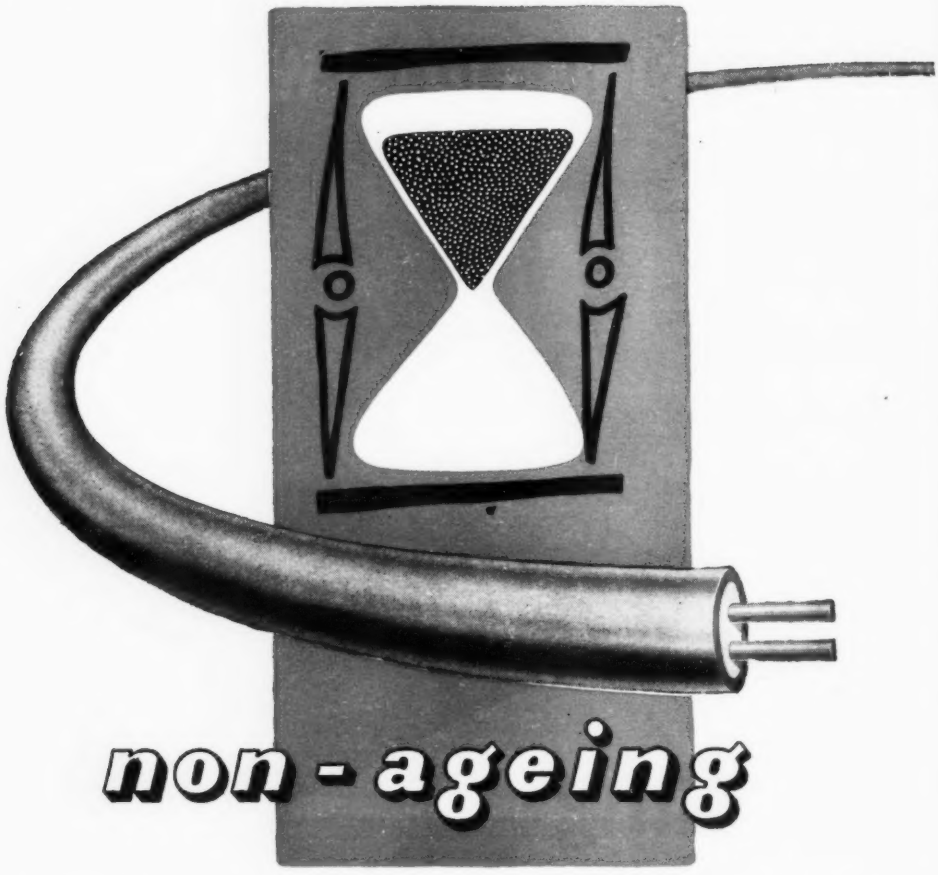
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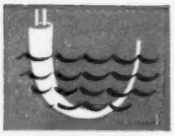
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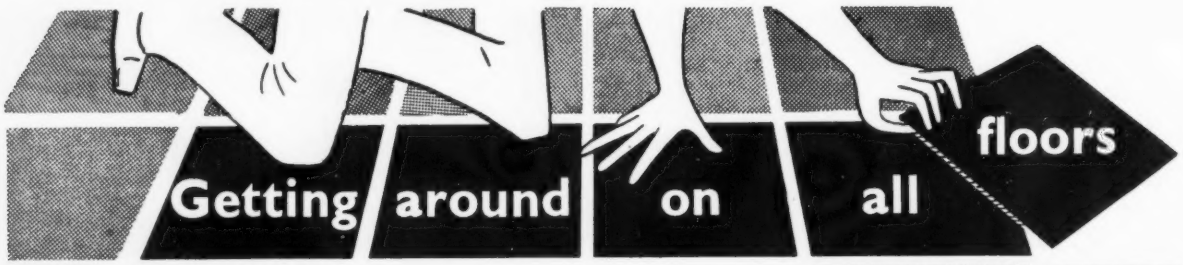
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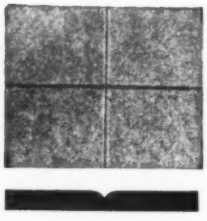
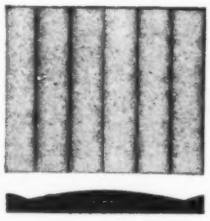
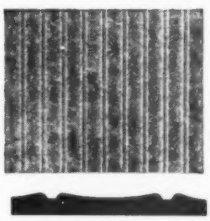
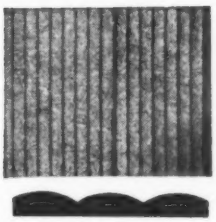
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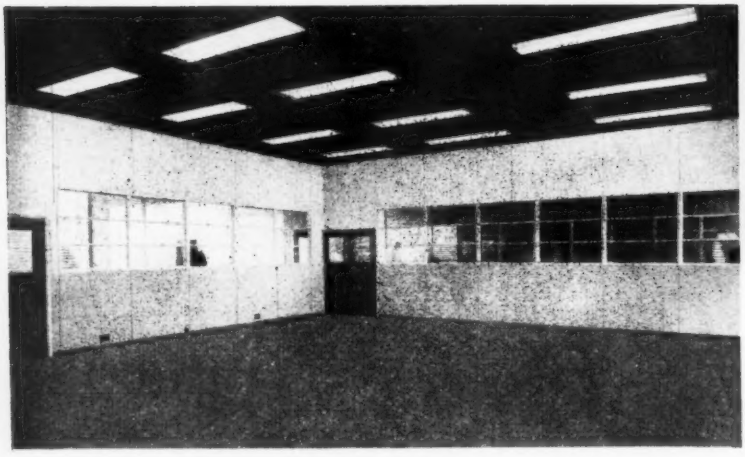
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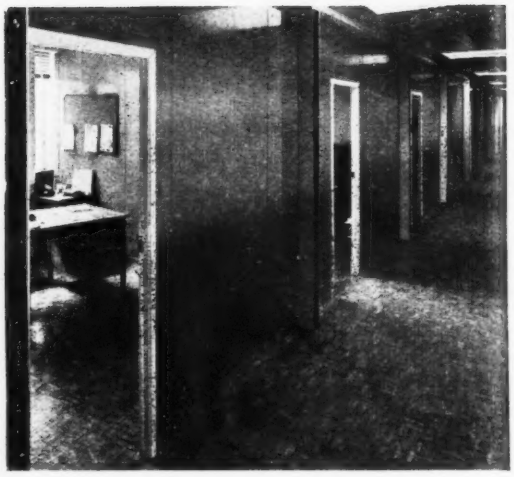
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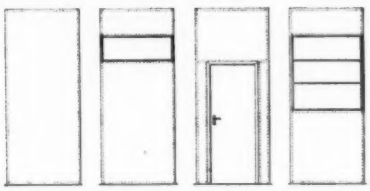
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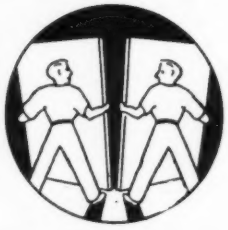
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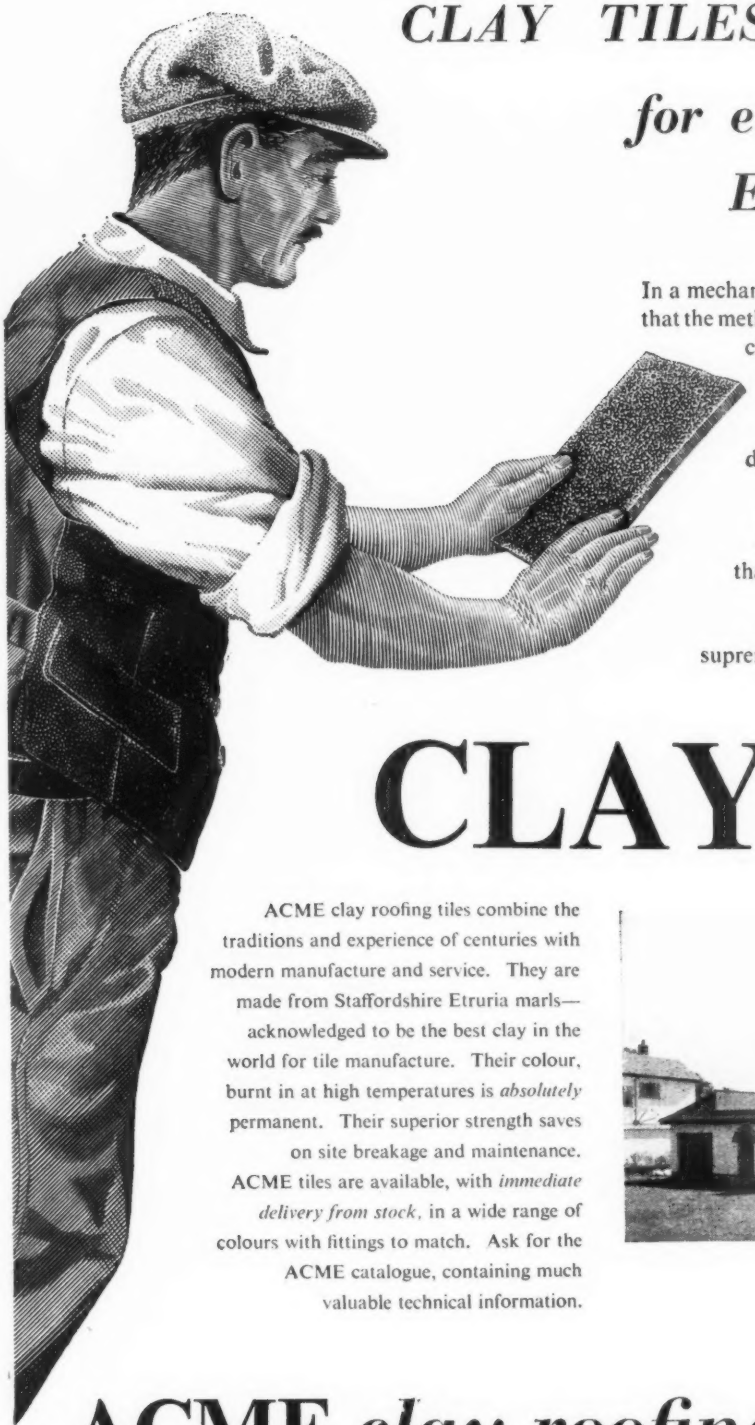
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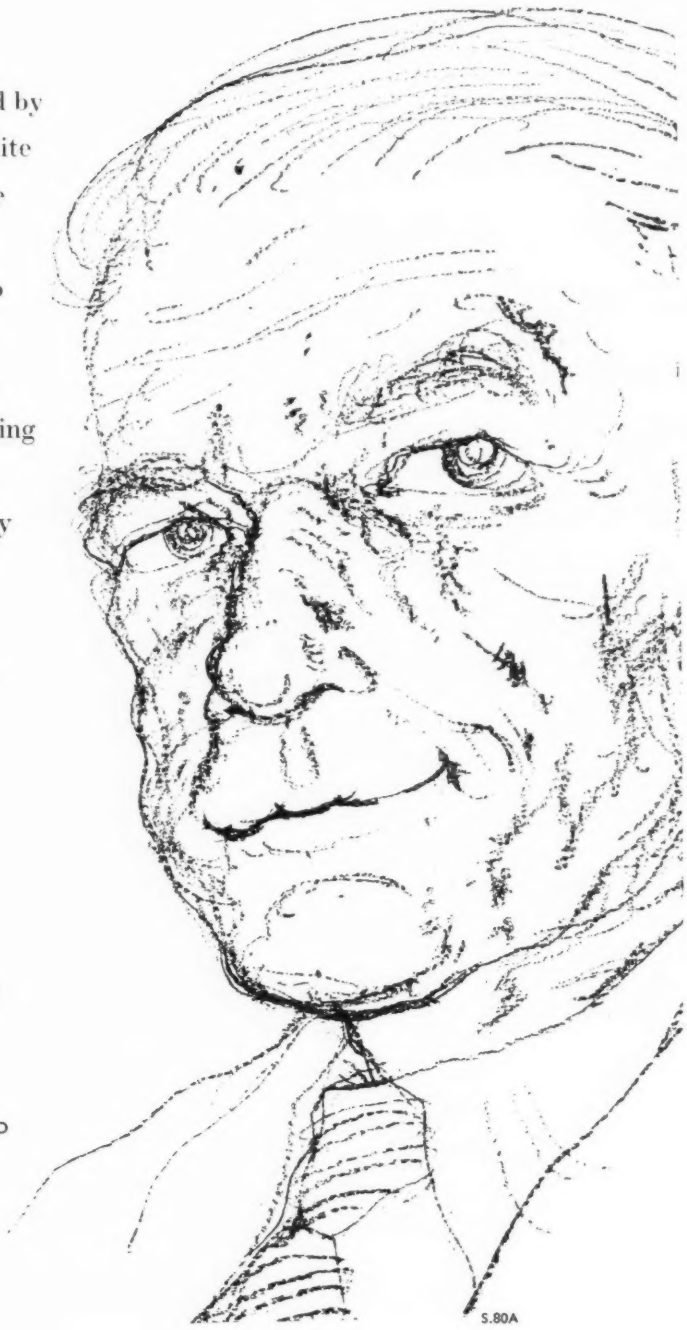
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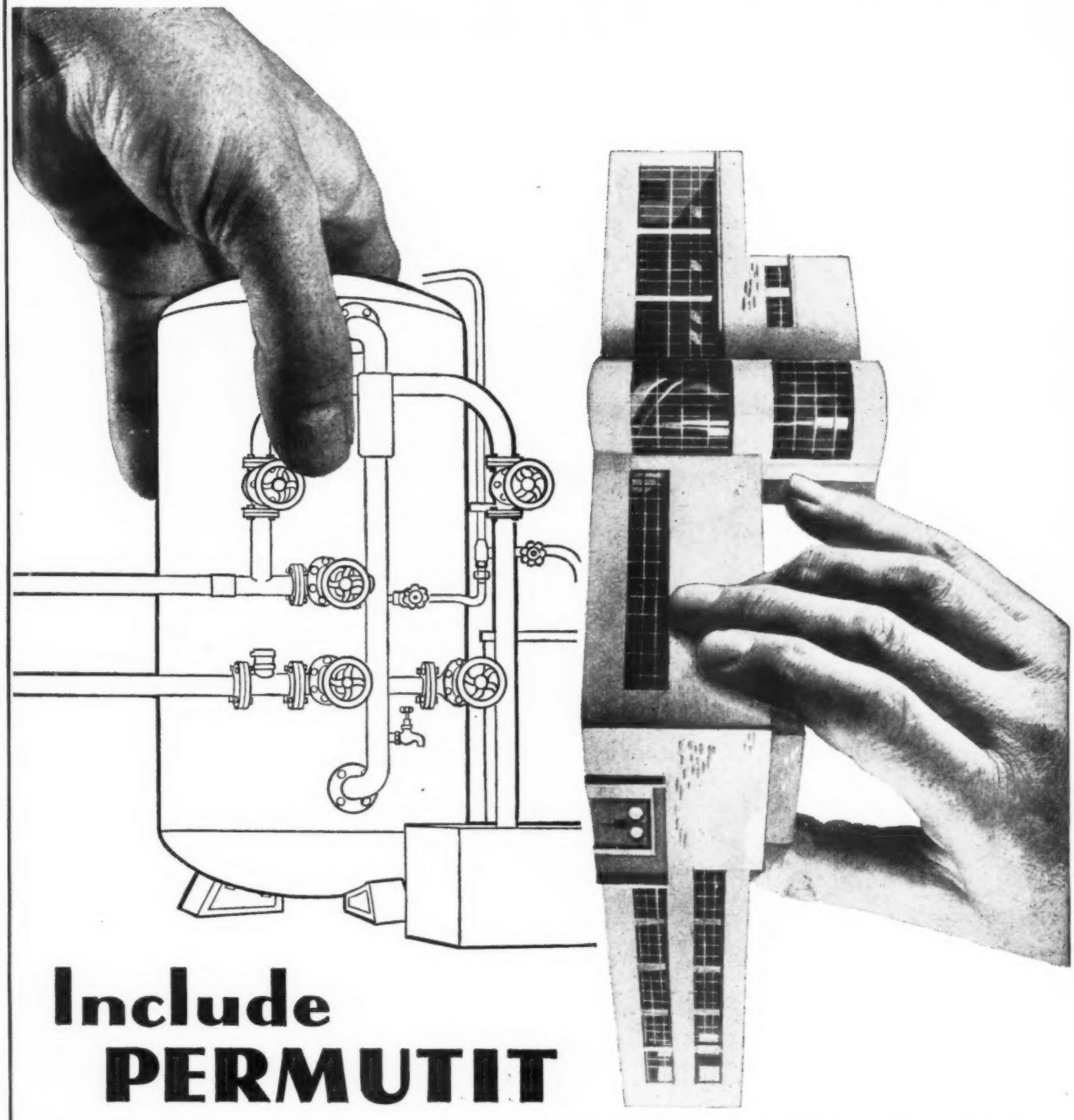
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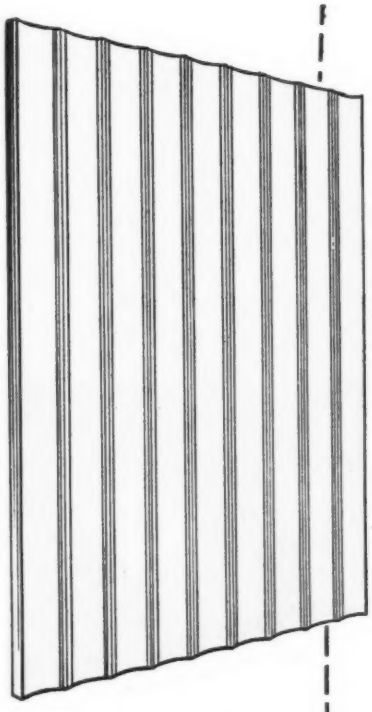
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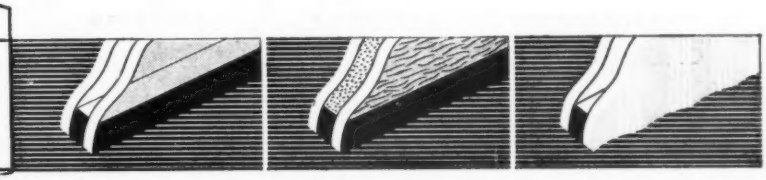
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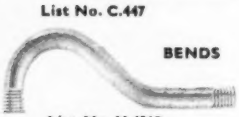


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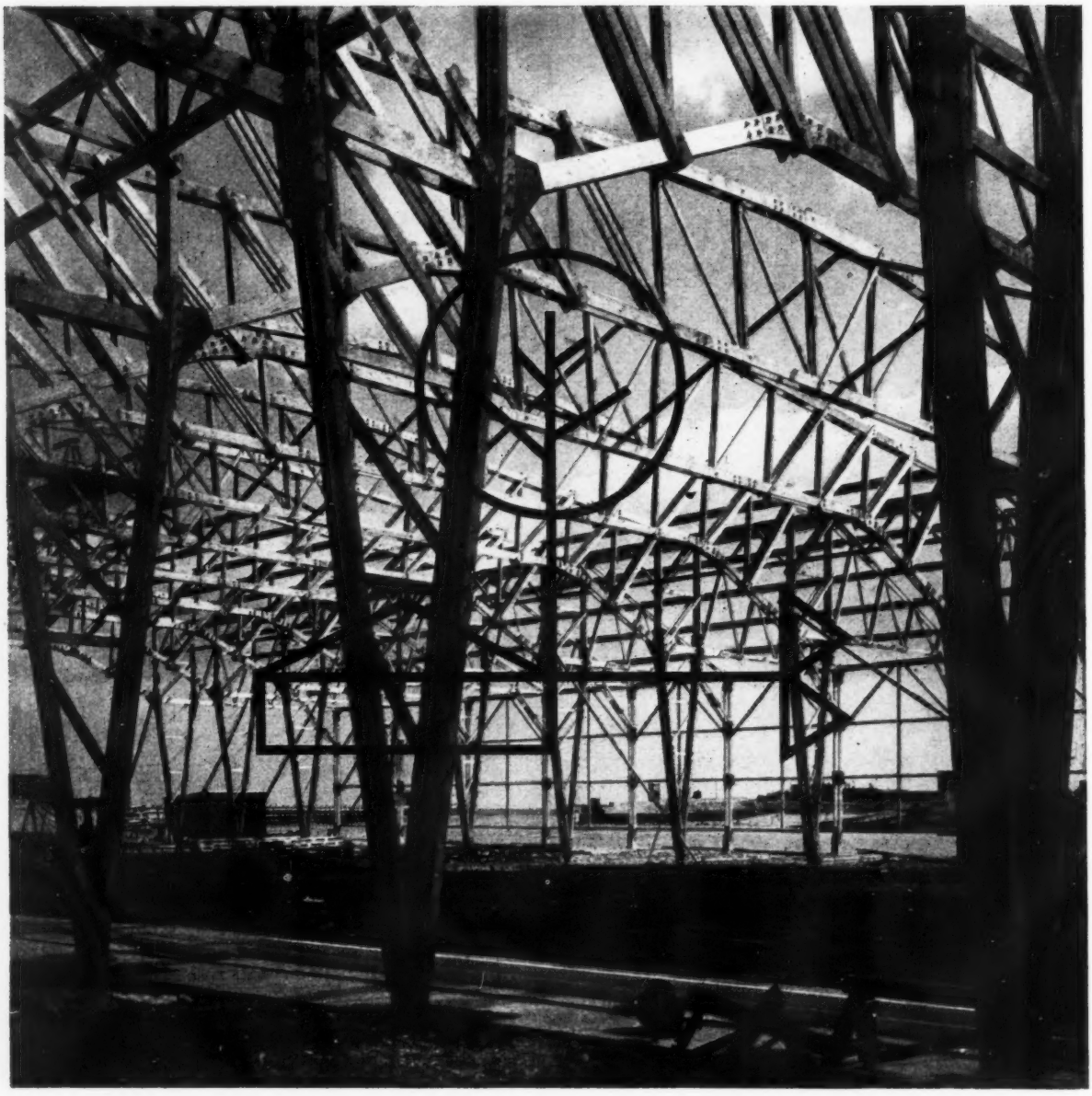


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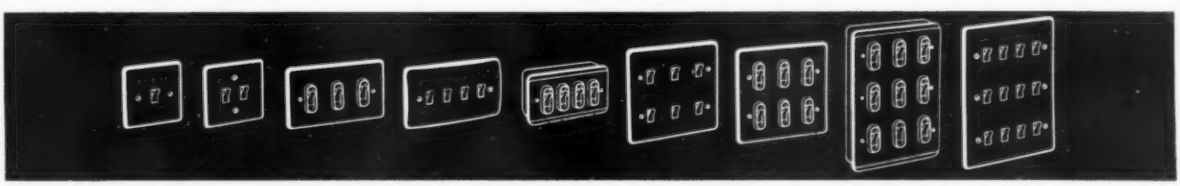
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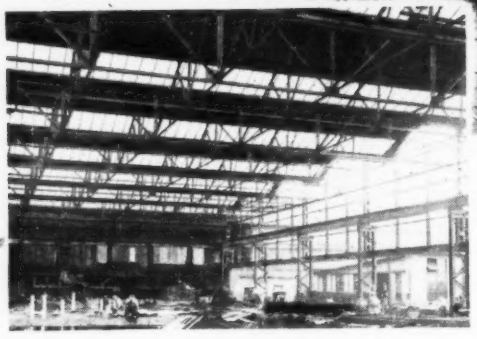
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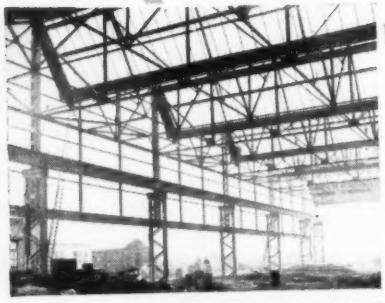
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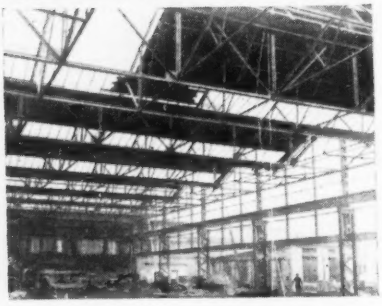
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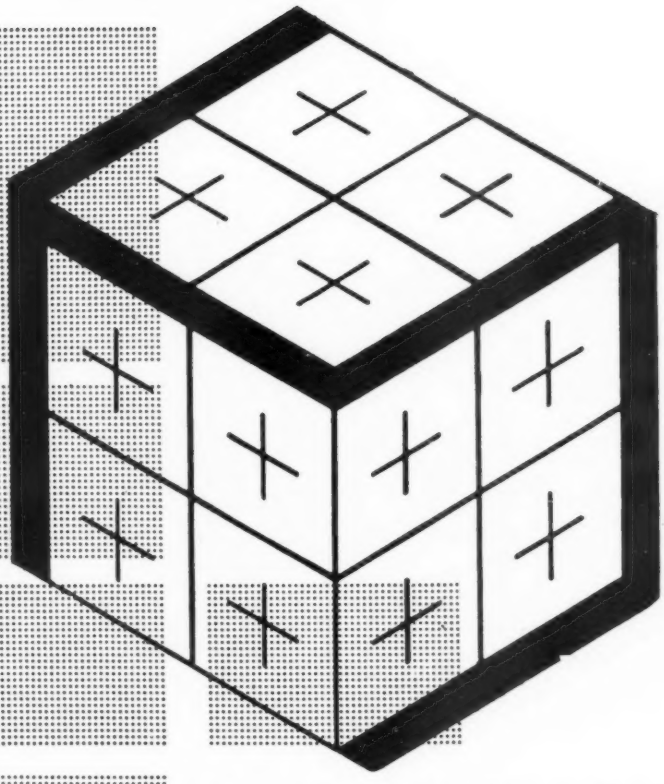
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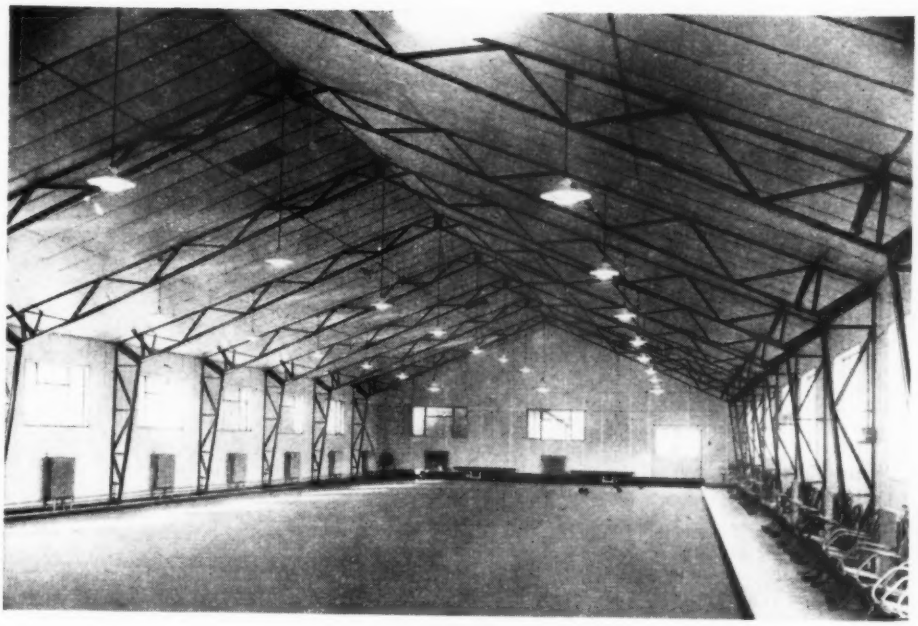


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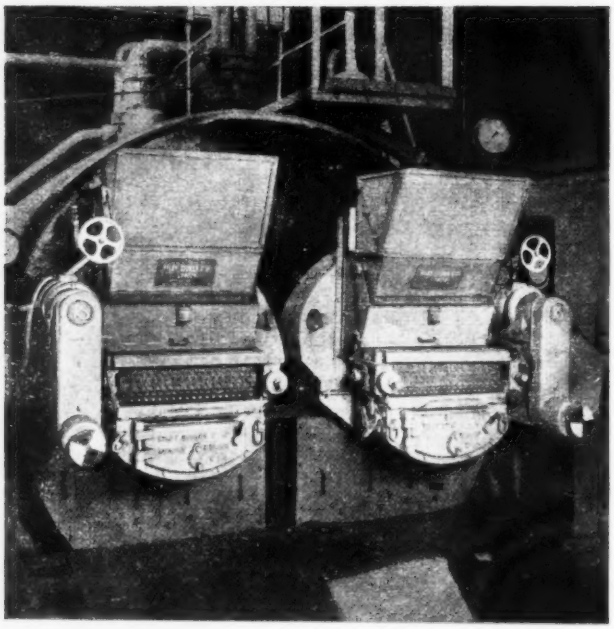
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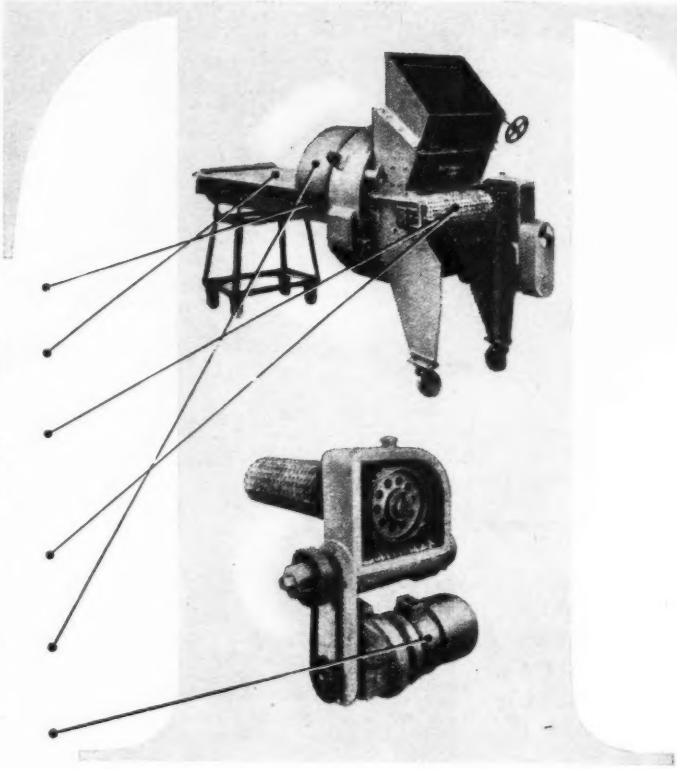
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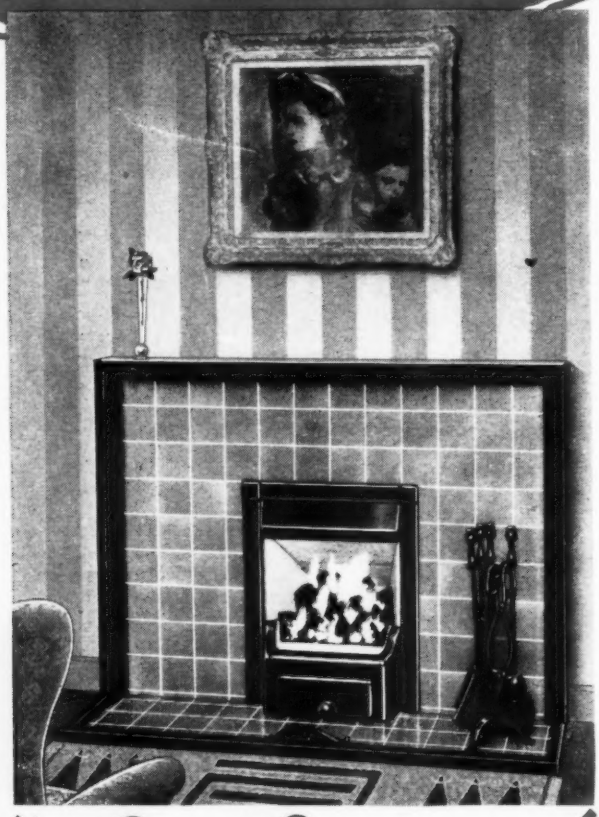
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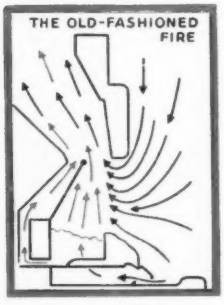
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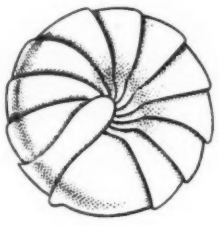
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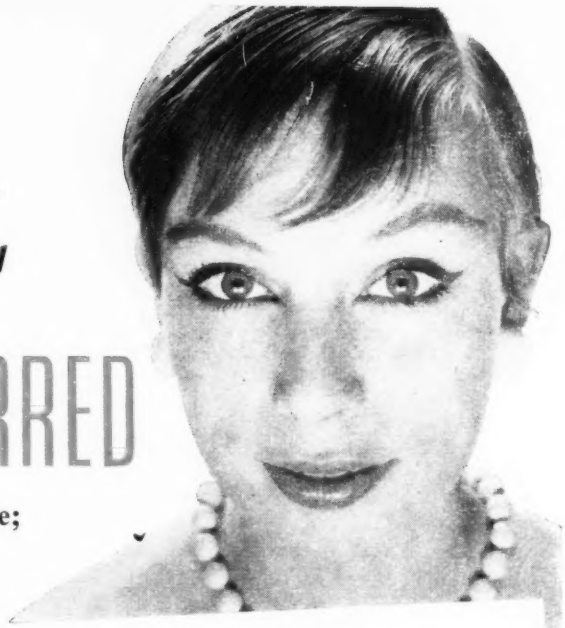
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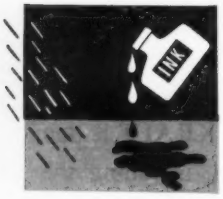
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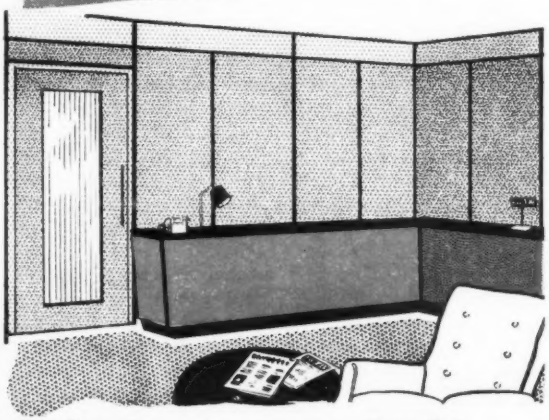
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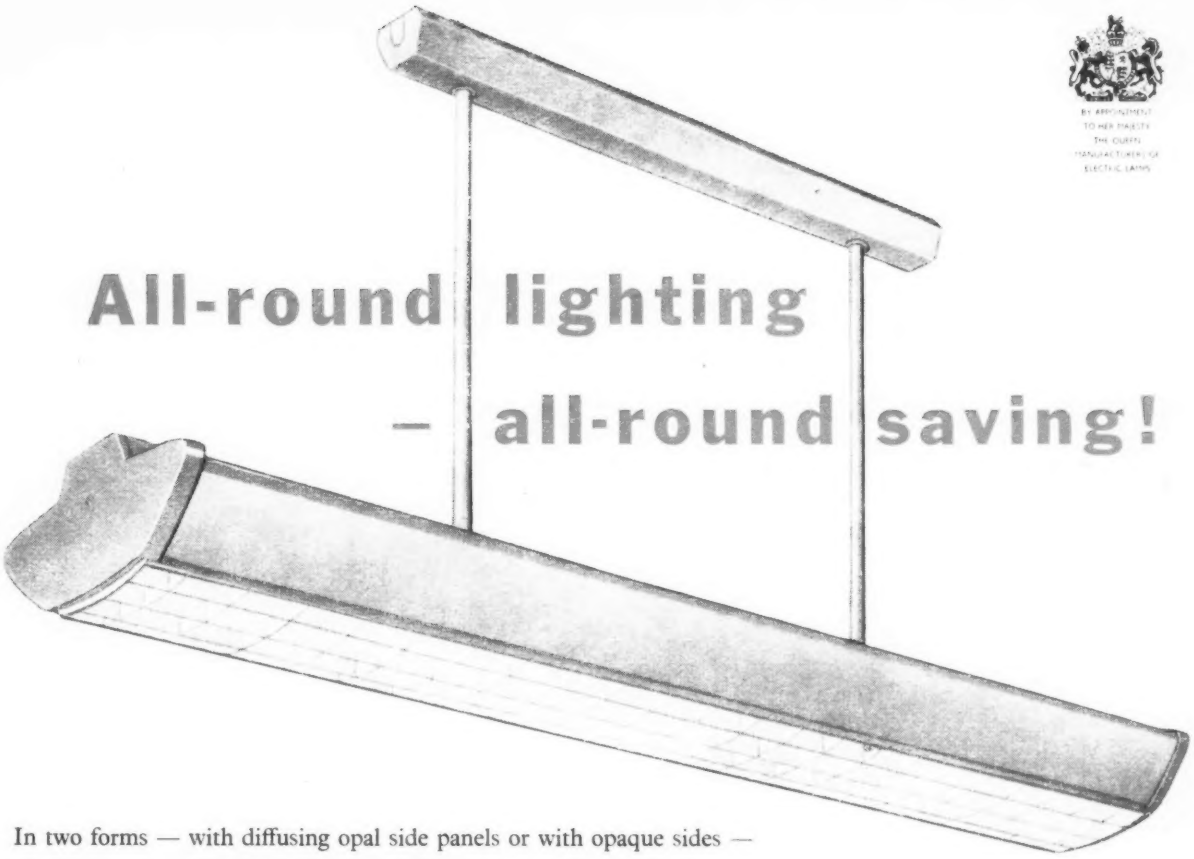
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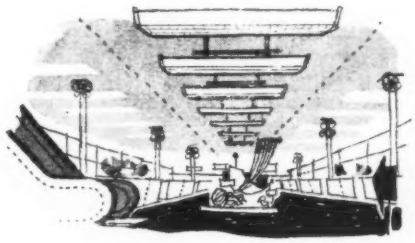
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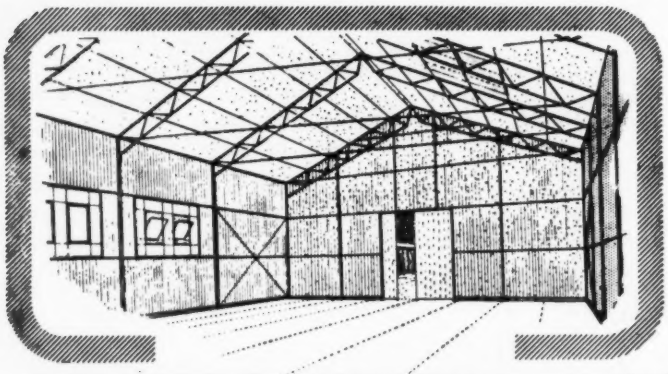
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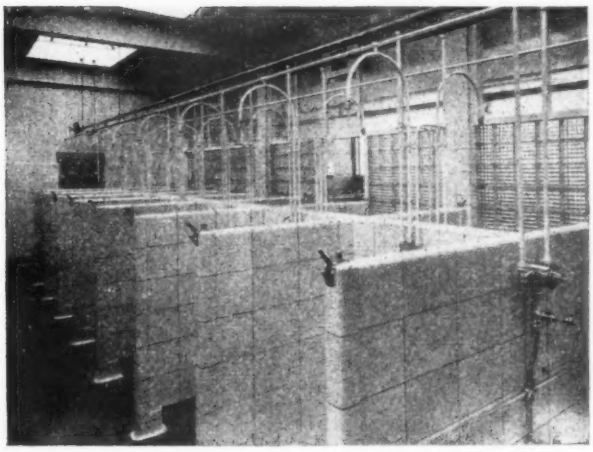
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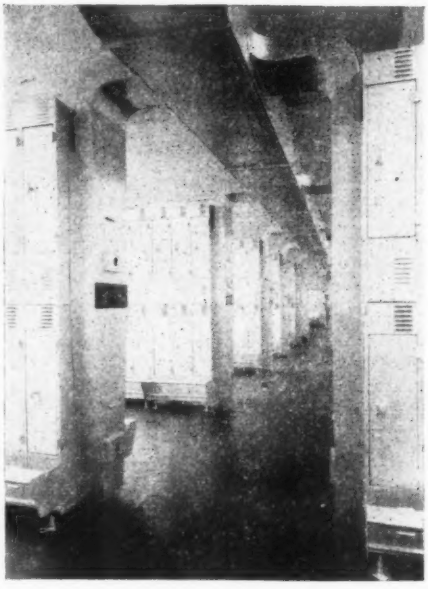




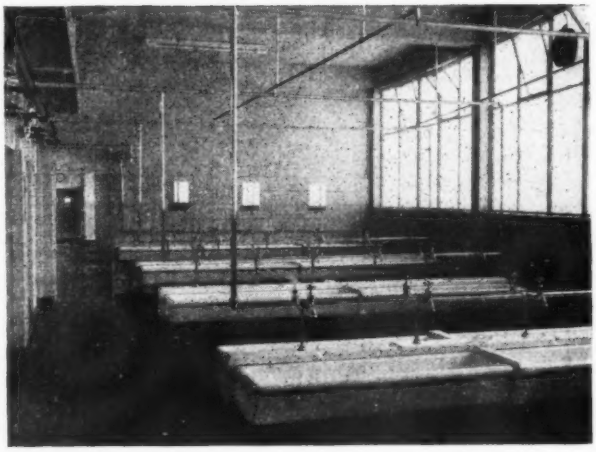
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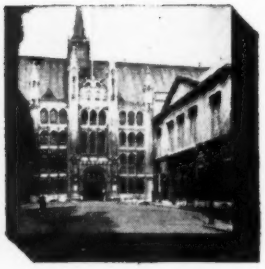
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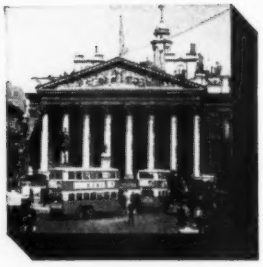
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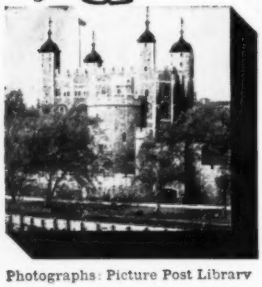
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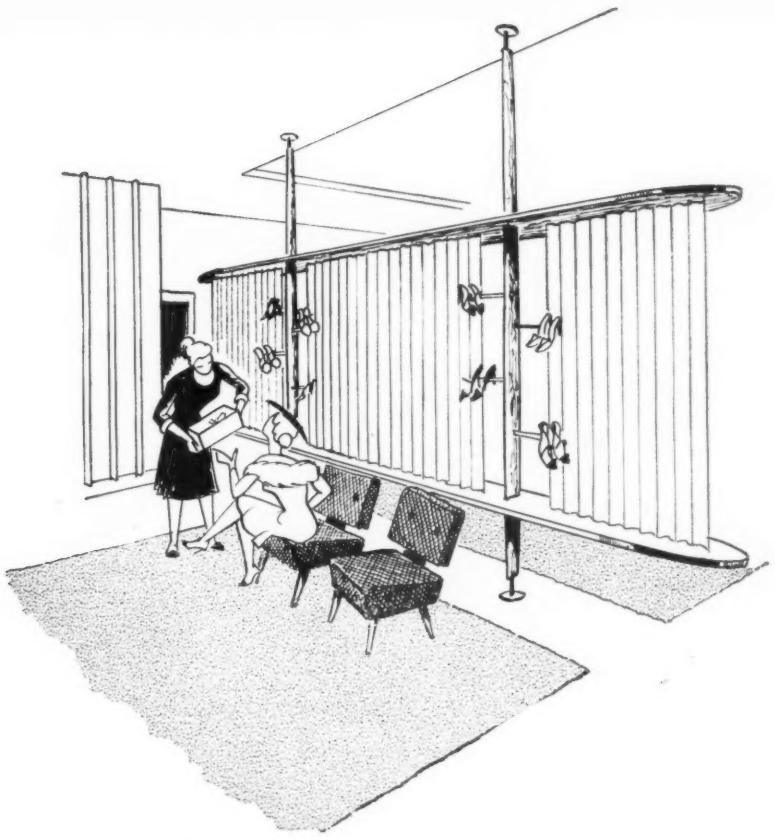
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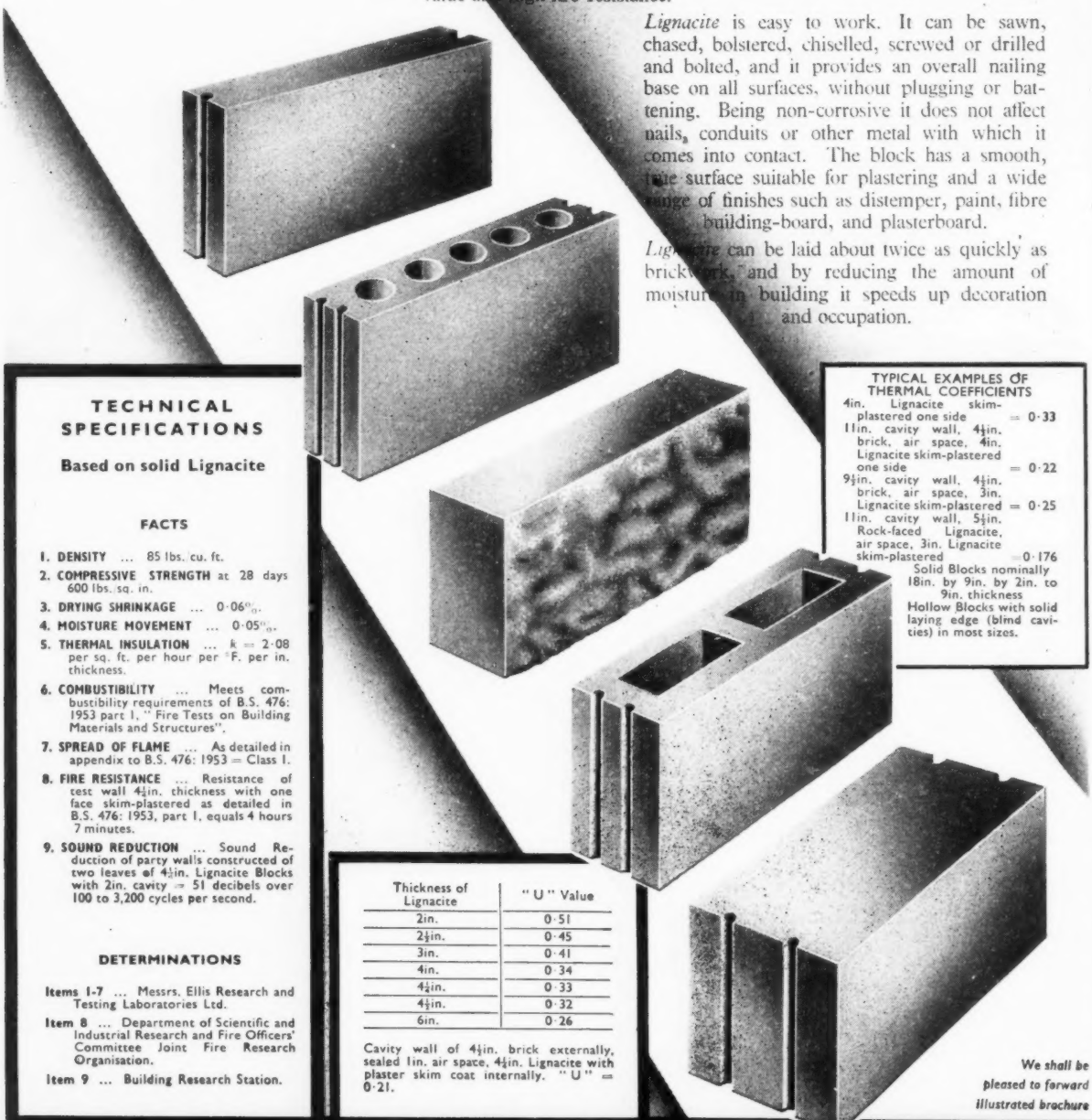
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6. **COMBUSTIBILITY** ... Meets combustibility requirements of B.S. 476: 1953 part 1, "Fire Tests on Building Materials and Structures".
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11in. cavity wall, 4½in. brick, air space, 4in. Lignacite skim-plastered one side = 0·22

9½in. cavity wall, 4½in. brick, air space, 3in. Lignacite skim-plastered = 0·25

11in. cavity wall, 5½in. Rock-faced Lignacite, air space, 3in. Lignacite skim-plastered = 0·176

Solid Blocks nominally 18in. by 9in. by 2in. to 9in. thickness

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Thickness of Lignacite	"U" Value
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2½in.	0·45
3in.	0·41
4in.	0·34
4½in.	0·33
4½in.	0·32
6in.	0·26

Cavity wall of 4½in. brick externally, sealed 1in. air space, 4½in. Lignacite with plaster skim coat internally. "U" = 0·21.

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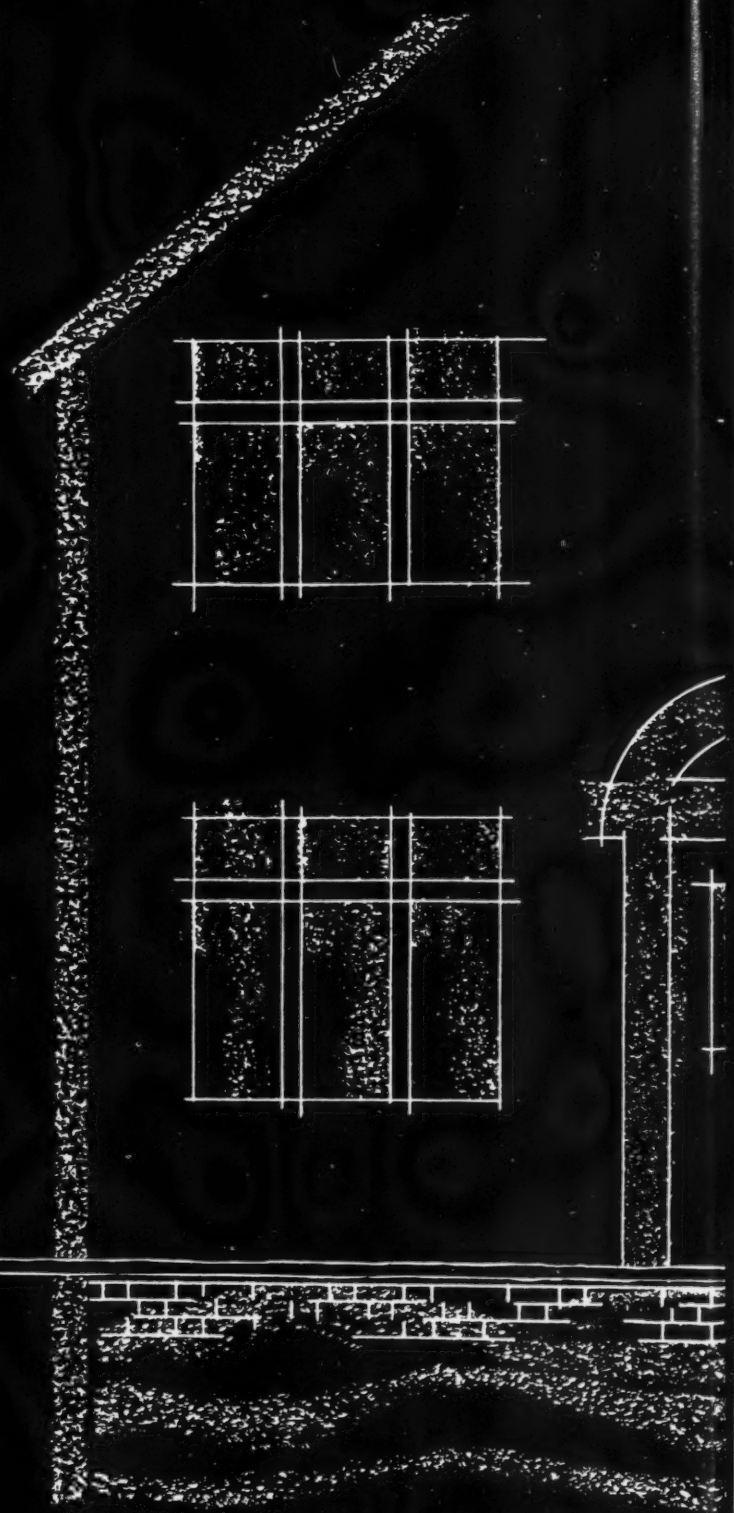
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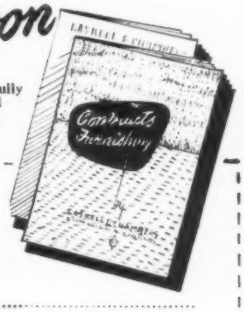
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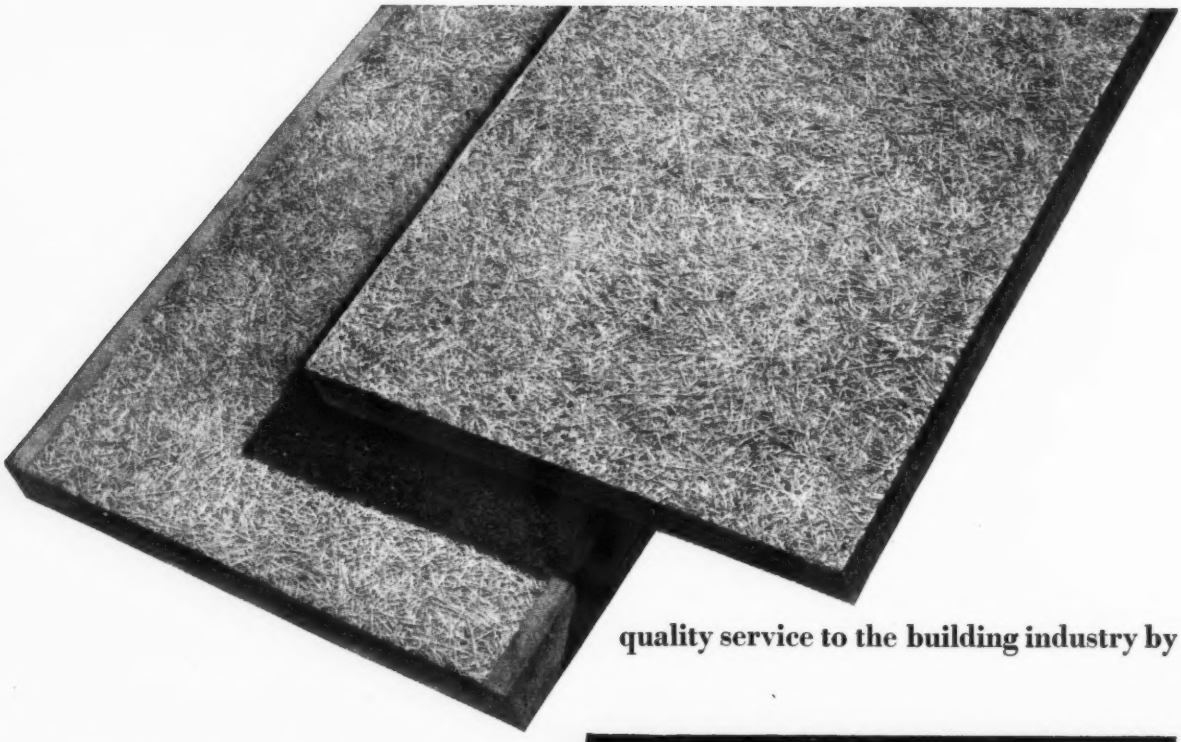
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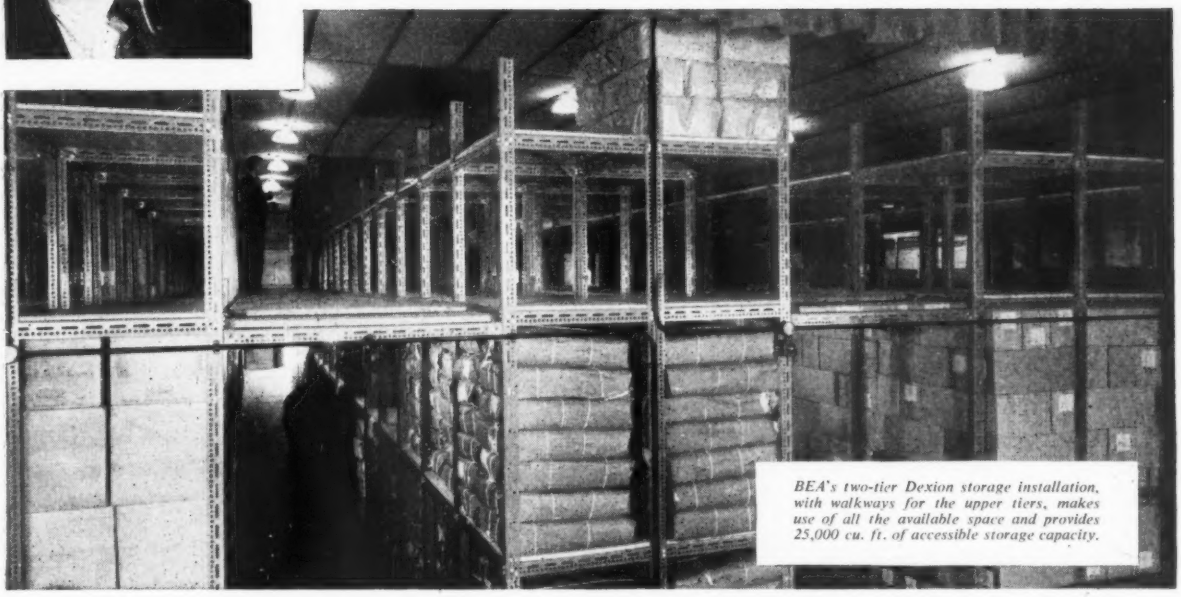
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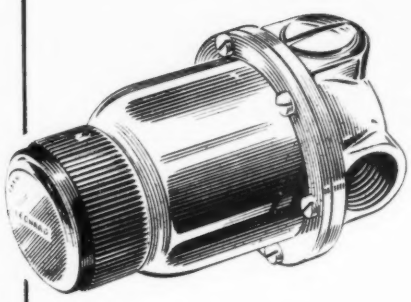


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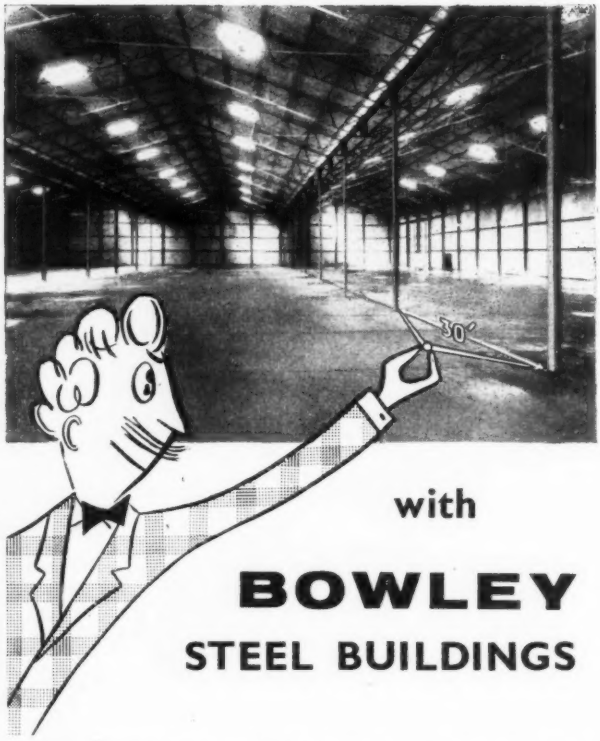
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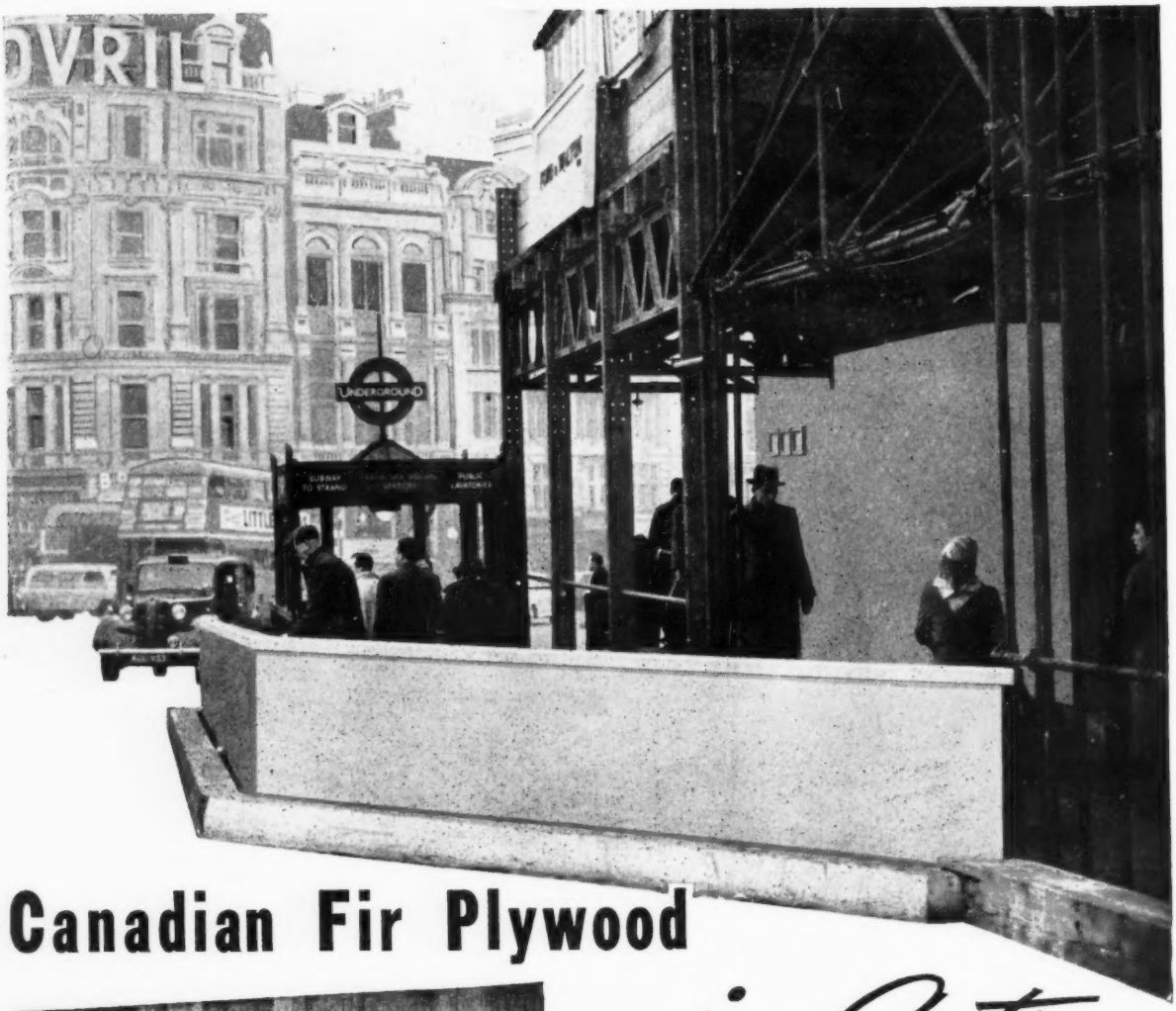


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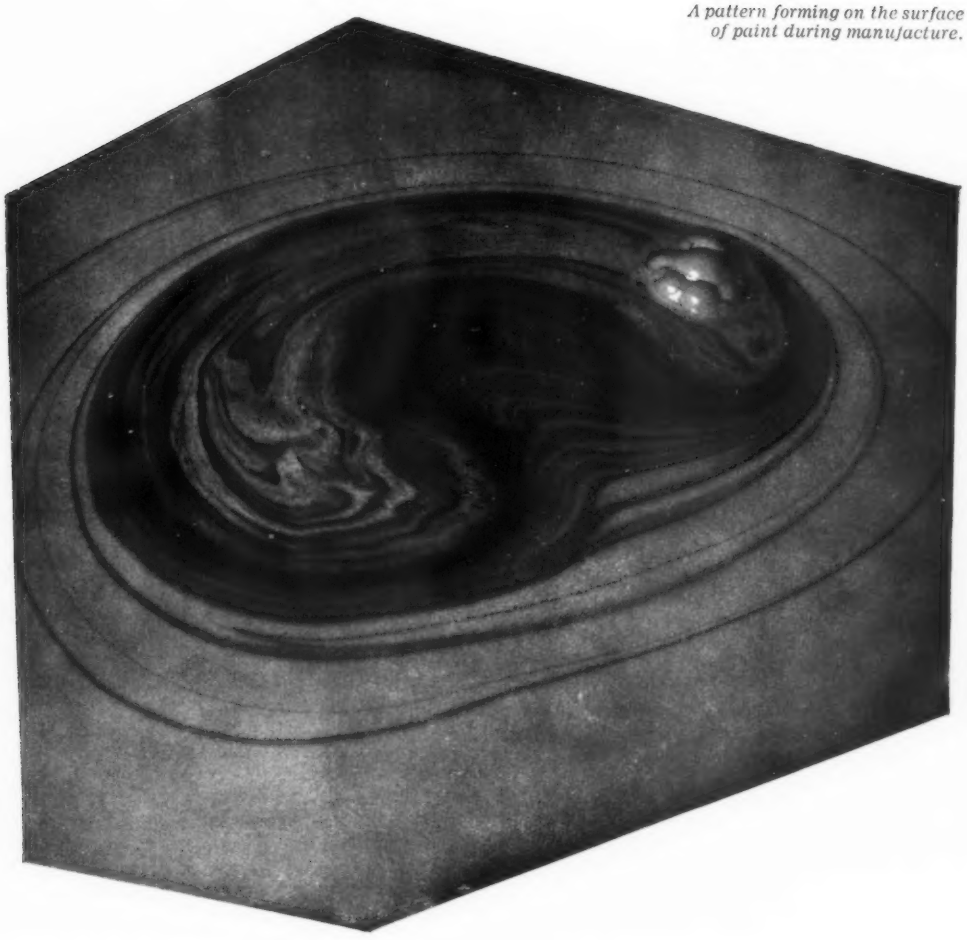
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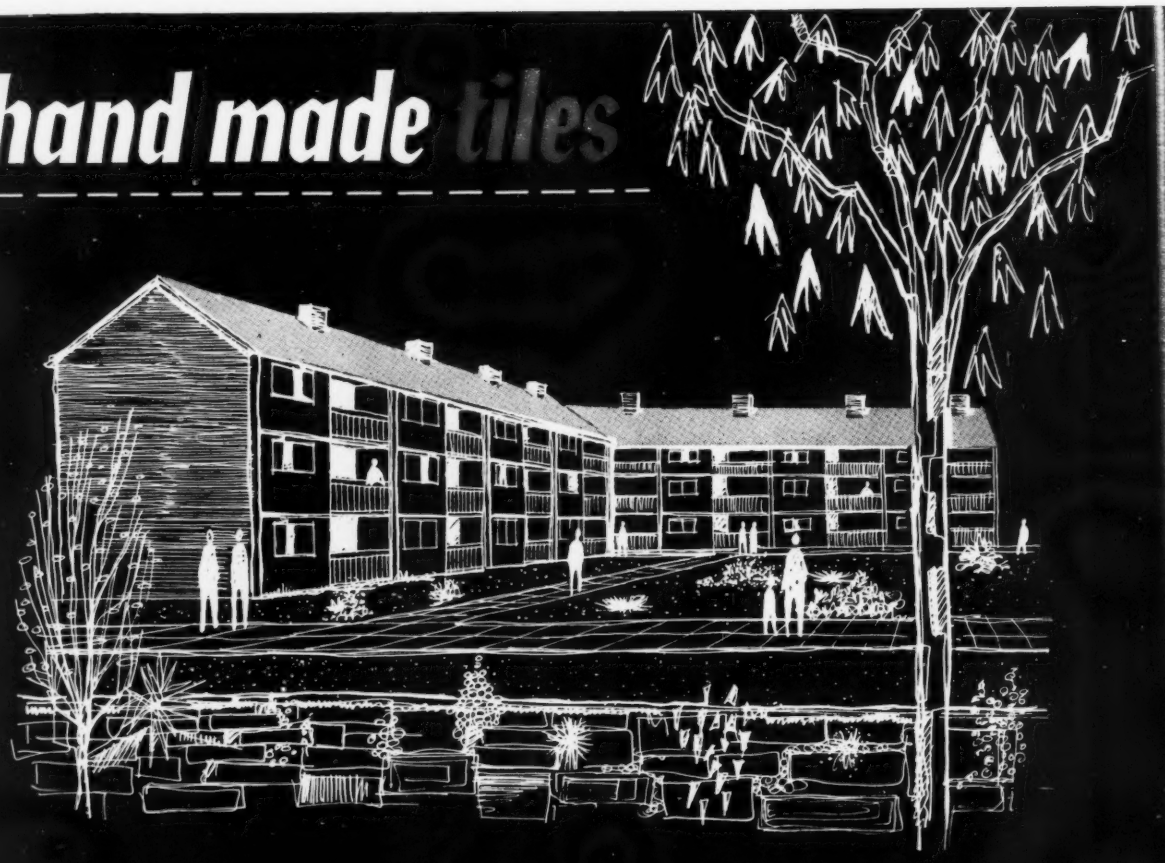
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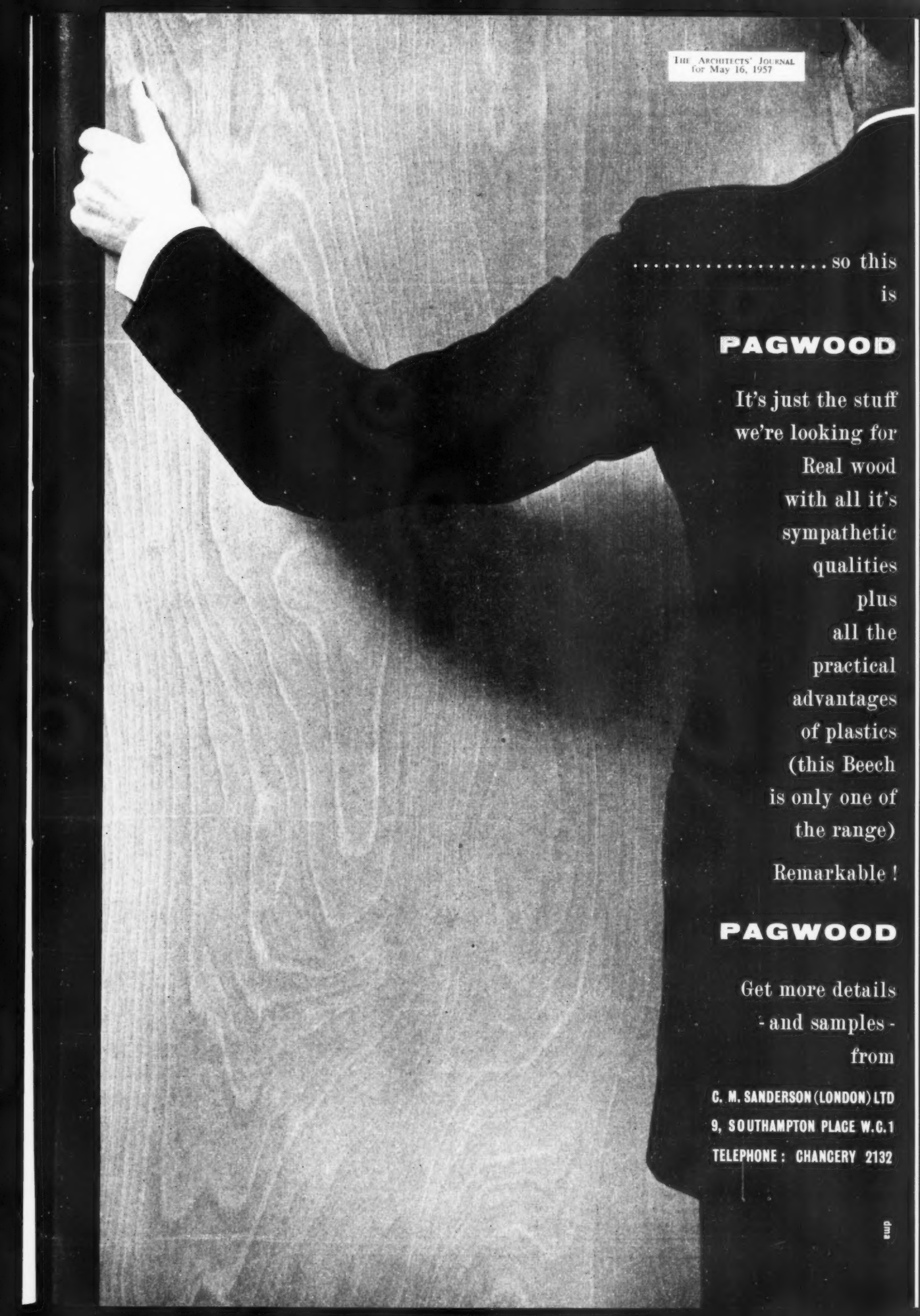
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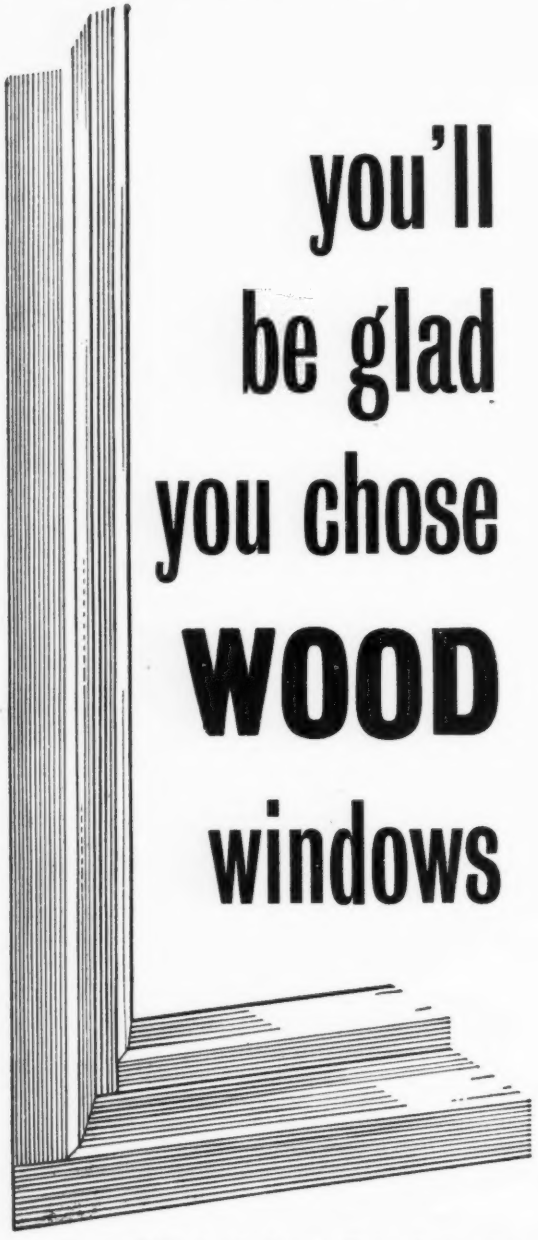
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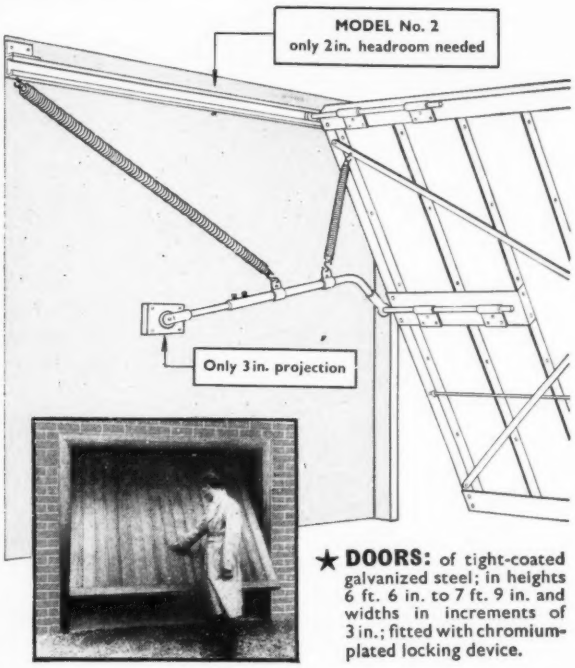
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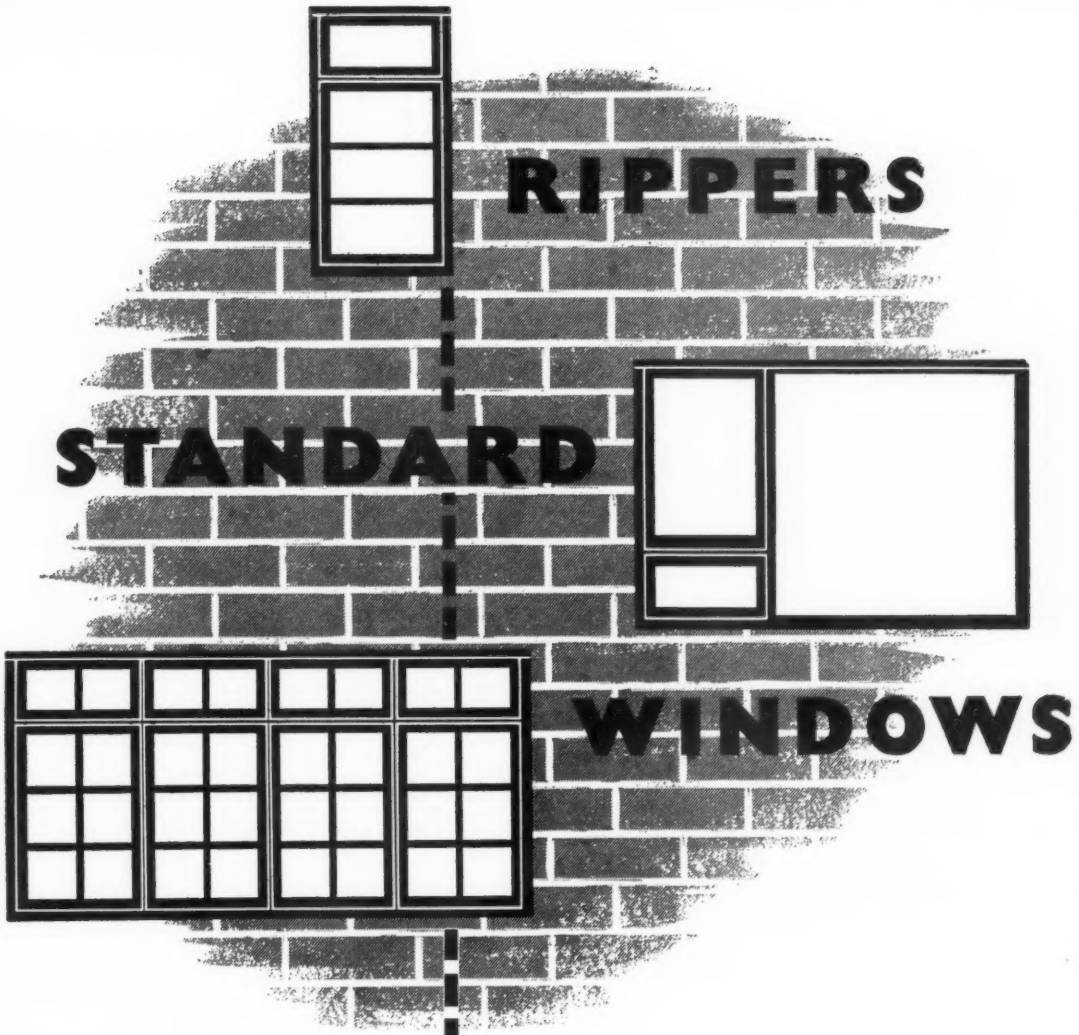
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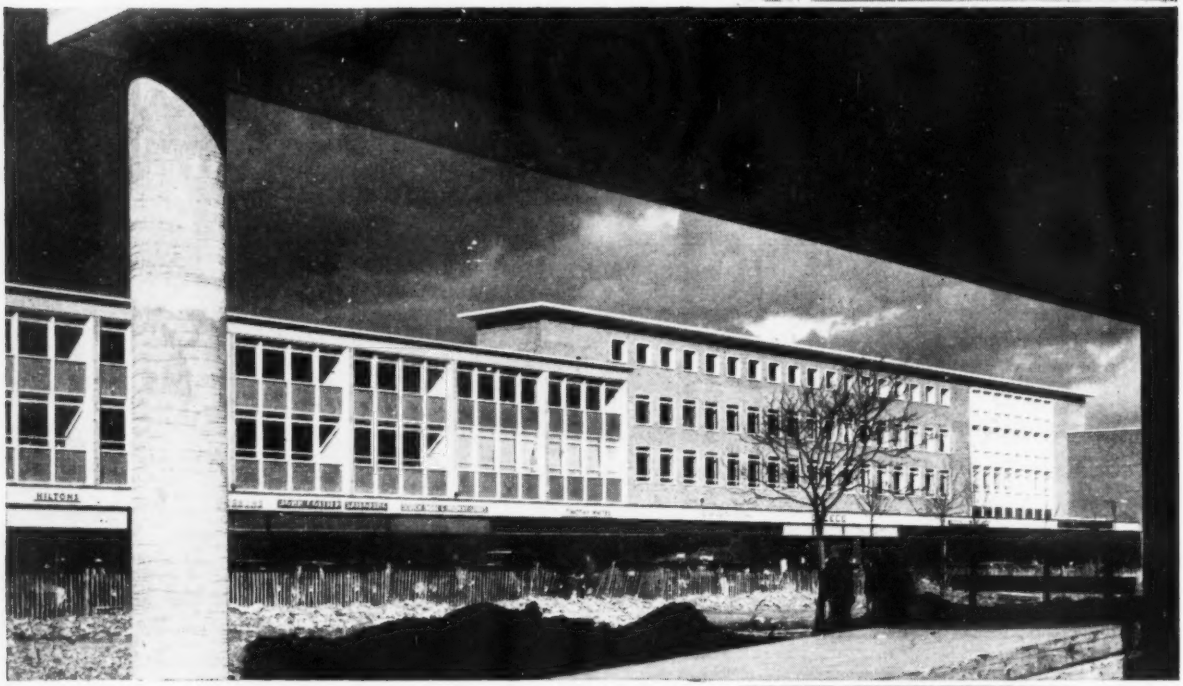
WILLIAMS & WILLIAMS NEWS SHEET

The changing face of Crawley New Town



QUEEN'S SQUARE

Crawley New Town centre is rapidly taking shape. In Queen's Square, the main shopping centre, building of the northern side is already complete and the construction of the remainder of the Square is well advanced. Williams & Williams purpose-made windows—in steel universal sections—have been used throughout, and 'Wallspan' has been used as a feature on the flanks of the entrance to the Square opposite Broad Walk.



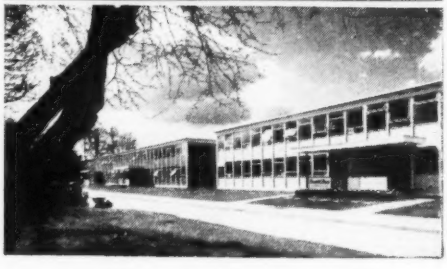
50,000 DOMESTIC WINDOWS

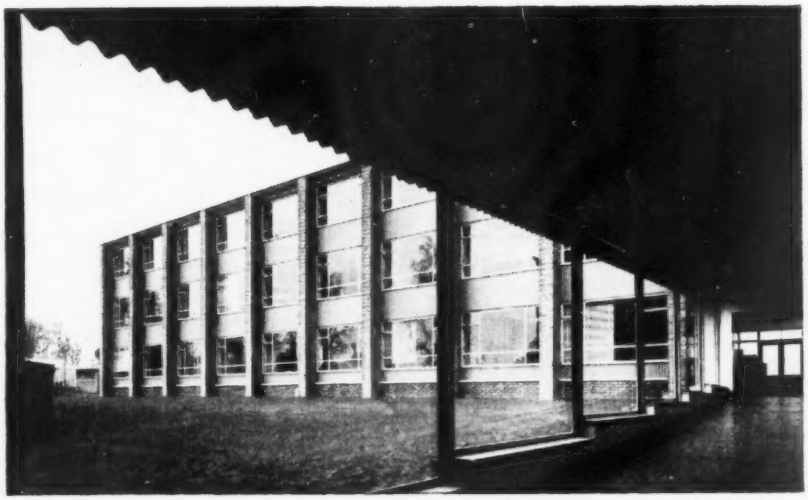
To date Williams & Williams have supplied over 50,000 windows to Crawley Housing Site. This photograph was taken in the Ifield Neighbourhood and the windows shown approximate very closely in appearance to those in our standard 'Z' range.



COLOUR IN INDUSTRY

Standard factories on the Industrial Estate have brightly coloured Roften Panelling in the spandrels for the purpose-made windows contained between concrete mullions. Roften Panelling is a special sandwich construction of fibre board between stove-enamelled rust-proofed steel and has a high insulation value.



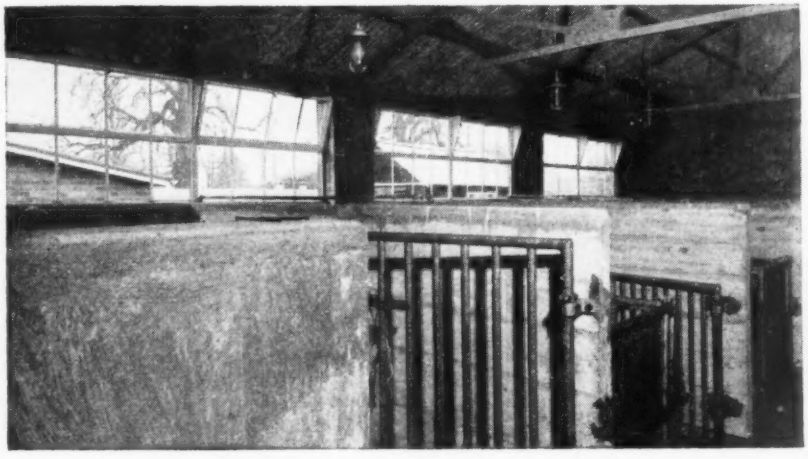


ARCHITECTS: *Chief Architect's Department, Ministry of Works.*

Agricultural Windows for the Ministry

The Ministry of Agriculture and Fisheries and Food Research Establishment at Coley Park, Reading, includes a number of Williams & Williams products. The main parallel laboratory blocks have purpose-made steel windows separated by pressed aluminium spandrel panels between piers of brick—a noteworthy example of contemporary techniques being adapted to harmonize with a rural setting.

Below: Standard Agricultural Windows to B.S. 2503 in the cowshed.

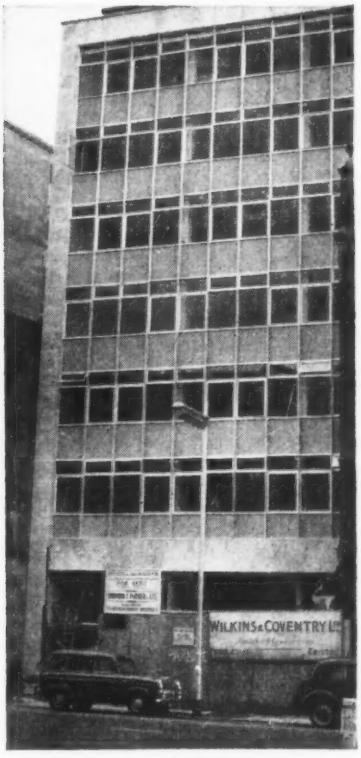


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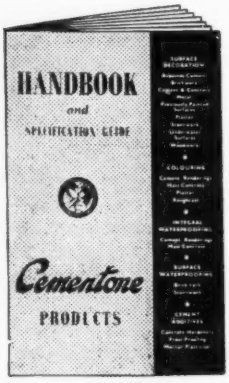
... was the 'Western Daily Press' description of the first stage of the new Equity & Law Building in Baldwin Street. The facade illustrated is Williams & Williams 'Wallspan' with light blue 'Muroglass' infilling panels and purpose-made aluminium windows. The architects are George Brown and Partners.



New purpose-made windows fitted into the existing wood sub-frames provide better lighting conditions and more easily controlled ventilation in Pitman's College, Southampton Row, W.C.1—without detracting from the sturdy Victorian character of the building. ARCHITECT: T. F. A. Manning, B.A. (Arch.), A.R.I.B.A.



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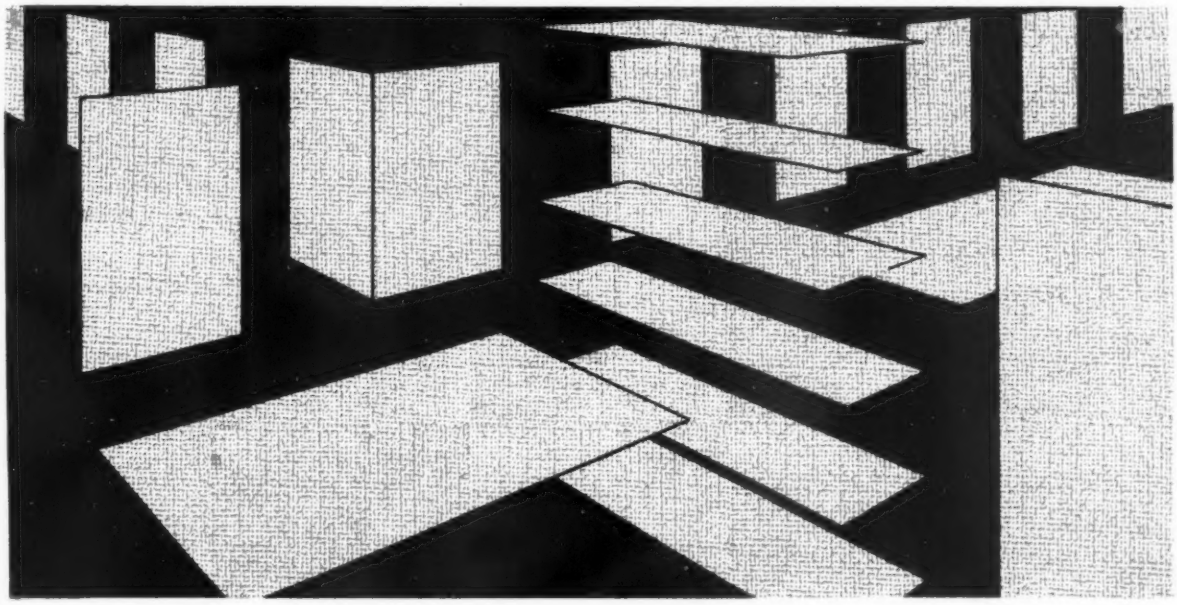
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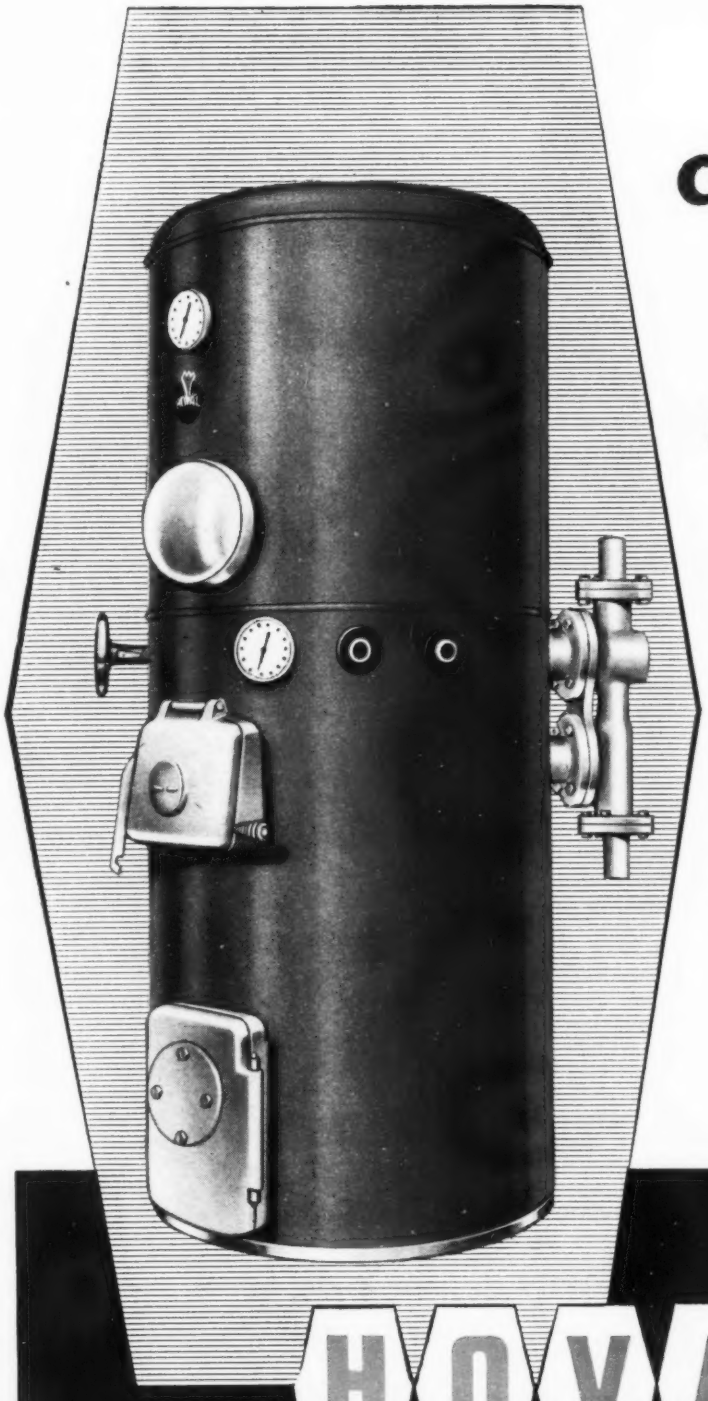
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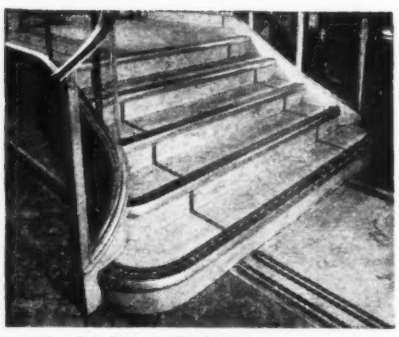
On Stand No.27 at the Yorkshire Building Trades Exhibition, May 21—June 1.



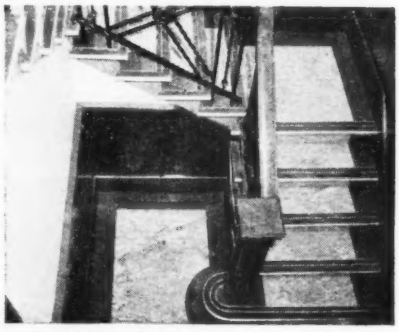
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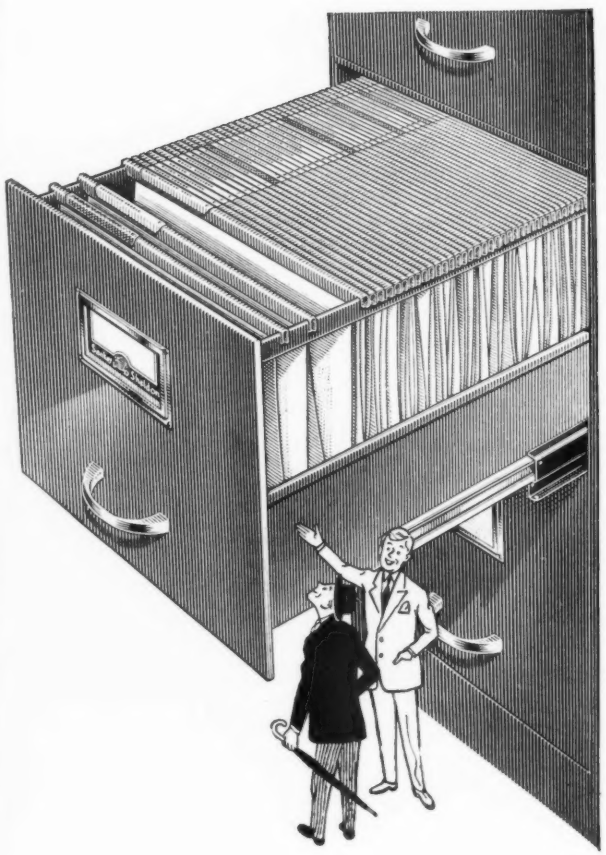


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THE ARCHITECTS' JOURNAL

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NOT QUITE ARCHITECTURE

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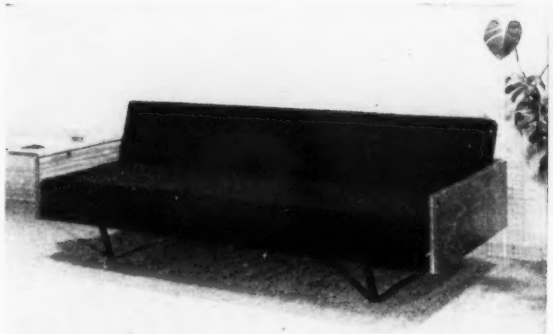
And No Handshakes for Designers

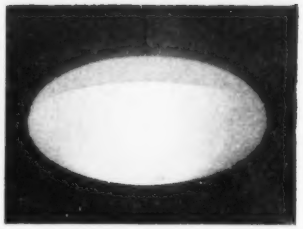
Twelve certificates, which were awarded for "designs of the year," were presented by the Duke of Edinburgh at the Design Centre on Friday. The presentations were made to managing directors of the producing firms, and not to the designers themselves. Nevertheless, the COID (which had asked a panel* of Royal Designers for Industry to select the Top Twelve) showed they were aware of the importance of the designer-producer team. While the Duke was shaking hands and dishing out certificates in the council room, the lucky designers were allowed to remain in the building. At no time during the ceremony was there anything between them and the Royal art patron other than a closed door, a staircase, a rope barrier and a horde of Design Centre officials. What is more, each of these designers had already received a cup of coffee and/or a glass of sherry and a label with his name on, and had been allowed to talk quite freely with gentlemen of the Press.

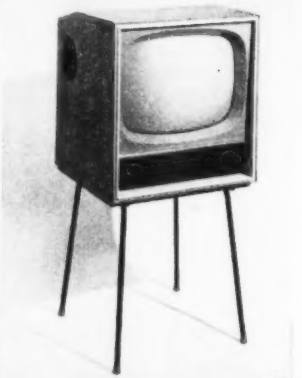
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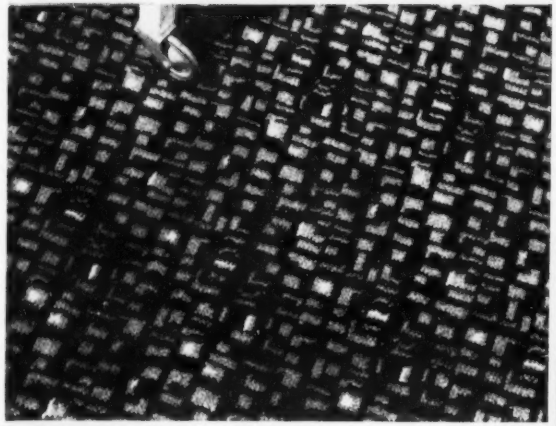
No attempt was made to conceal from the public the fact that these designers had played some part in the production of the chosen goods. And yet, believe it or not, there were one or two disgruntled souls at the Press reception who felt that the COID could have done more than they had done. Some said the designers' names should have been printed on the

* Milner Gray, Professor R. Y. Goodden, Brian O'Rorke, Professor R. D. Russell and Mrs. Astrid Sampe.

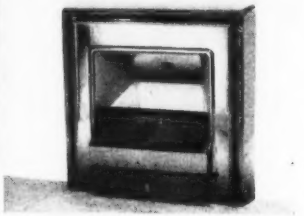








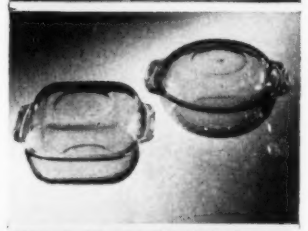




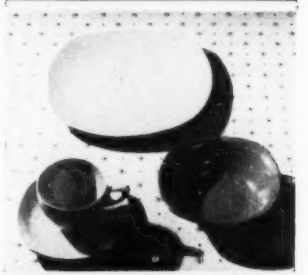
Designers Win Recognition—For Manufacturers

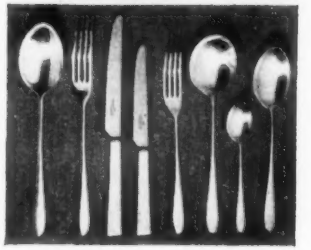
The designers of the twelve products shown here stood graciously on one side last Friday while the managing directors of the firms who had made the products received certificates from the Duke of Edinburgh. As the designers stood in their roped-off enclosure at the Design Centre they were unable to hear the heartening words of Prince Philip. " This certificate," he said, " is not just for the board room. I believe that it should go to everyone in your firms who had any part in making these goods. You may be sure that the COID would very much like them to feel that it is an encouragement and reward for their work." The designers of these products, who doubtless feel in some way responsible for their success, were Robin Day (settee-bed for Hille, and television receiver for Pye); Lucienne Day (Axminster carpeting for Tomkinsons Ltd.: centre left); Audrey Levy (Palladio wallpaper, " Impasto," screen-printed, for Wall Paper Manufacturers Ltd.); John and Sylvia Reid (pendant lampshade, for Rotaflex—Great Britain—Ltd.); Tibor Reich (cotton " Fototexurprint," Flamingo, for Tibor Ltd.: below left); David Ogle (" Rayburn " convector open fire, for Allied Ironfounders Ltd.); S. Fogelberg (" Connoiseur " table glass set, for T. Webb & Sons); John Cochrane, Milner Gray and Kenneth Lamble (" Pyrex " casseroles, for J. A. Jobling & Co. Ltd.); Millicent Taplin and Victor Skellern (" Strawberry Hill " fine bone china dinner and tea ware, for J. Wedgwood & Sons Ltd.); A. H. Woodfull and John D. Vale ("Melmex" plastics tableware, made for W. R. Midwinter Ltd., by the Streetly Manufacturing Co. Ltd.); and David Mellor (" Pride " cutlery and plate, for Walker & Hall Ltd.). The " designs of the year " are now on view at the Design Centre, Haymarket, S.W.1, and the COID has prepared display cards for retailers who stock these products. Although the designers' names were not printed on the certificates presented by the Duke of Edinburgh, they will be revealed on these display cards. See also this week's " Not Quite Architecture " column, on page 723.











certificates awarded. Others even thought that the designers should have been permitted to stand *inside the very same room as the Duke* while he was making his awards. But as the Council explained, there was no room for anyone else at the prizegiving. This was a superb example of government diplomacy. Although it is perfectly true that the designers could not have been crammed into the council room unless they were prepared to stand within a few yards of each other, there *was* another reason for their absence. "It's simply a question of status," said a spokes (in the wheel?) man of the Council. "You just can't present a managing director to Royalty at the same time as a young man who may have left the Royal College of Art only a few years ago. Anyway," he added, with a fairmindedness that would have endeared him to Olga, the Pride of the Soviet Lamp Factory, "it would not be fair to all the other people who worked behind the scenes on these designs. In any case," he wound up—and one had to admire him for the strength of each new argument—"there wasn't time."

*

Incidentally, there is no need to fret if you designed one of the 3,488 items that were considered by the Council and rejected. It seems that the products chosen for the Hit Parade of 1957 were not necessarily the *best*-designed products. "We have been very careful," another COID spokesman told me, "not to say that the 'twelve designs of the year' are '*the* twelve designs of the year.' We hope people will realise we have deliberately left out the definite article." To which, of course, there are at least twelve funny answers.

KENNETH J. ROBINSON

DIARY

Contemporary Architecture and the Church. The Rev. Peter Hammond. Prospect series, BBC Third Programme. 7.40 p.m. MAY 19

Town Planning in Poland. R. H. King. At TCPA Planning Centre, 28, King Street, W.C.2. 6.30 p.m. MAY 20

The Case for a Theory of Modern Architecture. John Summerson. At the RIBA, 66, Portland Place, W.1. 6 p.m. MAY 21

Cost Control in Building. Course at Regent Street Poly School of Architecture, in collaboration with AJ. *Cost Planning I*, by G. Grenfell Baines, A.R.I.B.A., A.M.T.P.I. (May 28). 5, *Cost Planning II*, by John Wilkinson, A.R.I.B.A., and Arnold Towler, A.R.I.C.S. (June 4). 6, *Symposium*, with all speakers (June 18). All lectures start at 6.30 p.m. and will be held at the Portland Hall, Polytechnic Extension, Little Tichfield Street, W.1.

The Editors

THE ANNUAL SOUL-SEARCHING

THE inadequate pay and status of the senior salaried architect formed the main topic for discussion amongst those attending the AGM at the RIBA last week. A selection of the comments made, and the official replies are printed on pages 736-737. It is some satisfaction to see that ordinary members of the profession are now readily and capably discussing issues which were originally raised, with some diffidence, several years ago in the JOURNAL by Professor Ian Bowen, Martyn Webb and subsequently by the Editors. Although status and remuneration were the main topics, there was one other item raised which indicated a healthy attitude on the part of the membership. H. Moncrief asked for "real sanctions by which the Royal Institute can deal with the inefficient architect." Mr. Moncrief proposed that the RIBA contract should require that drawings and all instructions be handed to the contractor before the starting date given in the contract, and that any variations should be priced at rates above the bill rates. Whatever the effectiveness of such proposals, the pertinent thing is that the membership of the RIBA is growing jealous of their professional reputation—a healthy sign. For too long the RIBA has avoided its responsibility to its members, and the public, to discipline rigorously those members guilty of slipshod work. In this, as it can only deprive an architect of membership of the Royal Institute, and not prevent an architect from practising as a mere registered architect, it can afford to adopt a more intolerant attitude to professional fallibility than can ARCUK. It is to be hoped that the subject of how to ensure a high standard of professional conduct and performance—in the widest sense of the words—becomes a regular topic for discussion at the RIBA. It is, after all, a subject which is the concomitant of status and remuneration.

SECOND EDITION OF A CLASSIC

Now that it is certain that MOE's Building Bulletin No. 4 on Cost Analysis is destined to be a document of historic significance for British architecture, special interest attaches to the publication today of a second edition.* Much has been happening in the six years since the original edition was published: we have had a British Architects' Conference on "Architectural Economics," both the RIBA and the RICS have set up cost research committees, two years ago the AJ began regular publication of cost analysis, and there has been much else. The fact that this systematic interest in costs is virtually peculiar to this country is evidence that all these things are directly or indirectly attributable to Bulletin No. 4. On the ideological side, the main achievement of this Bulletin was undoubtedly the relation of cost to the architect's concept of function, that is, to quality and performance. What matters is not whether a building is cheap but that it should

* HMSO, 5s. 6d.

represent value for money. To determine this, it is necessary to know, for instance, what it is costing to keep out the weather, to provide vertical circulation, to enable the occupants to wash their hands or to work in the building after dark, and so forth. The technique evolved to do this has the incidental advantage that it illumines the nature of the architect's job, explaining it in terms which are comprehensible alike to his partners in the building team and to his client, and which must command their respect. The use of this technique for obtaining cost information on some of the general problems of building is well brought out in some of the appendices of this second edition. In Appendix 9, for instance, which shows the effect on cost of planning similar classroom blocks (using the same system of construction) in one, two, three and four storeys. Or in Appendix 12, which goes through the motions of deciding cost targets for each element of a projected building, taking each piece from example analyses and adjusting for different quantity, quality and market conditions.

Our only quarrel with this second edition is that though the method of preparing a cost plan is clearly described, we are told too little about how the methods have been operating in practice. Lacking this, the Bulletin is not quite so persuasive as it could have been.



TOO TALL FOR SOUTH BANK

What is an area of "low amenity"? The question is prompted by a decision of the MOHLG, granting appeals by the owners of four large illuminated signs on the South Bank of the Thames against rulings by Lambeth Borough Council. Two of the signs near Vauxhall Bridge advertise Esso products: the others, lying between Waterloo Bridge and Blackfriars, advertise the *News Chronicle* and Younger's Scotch Ales. The Council refused to allow the continued display of the signs, on the ground that lettering more than 3 ft. 6 in. high was inappropriate on the South Bank. The Minister, in his decision, does not disagree with the view that lettering of this size (the letters range up to 8 ft. high) may not be appropriate "in particular cases," by which he presumably means in areas of "high amenity." But he concluded that "having regard to the present level of amenity surrounding the sites, he can see no great advantage in reducing the size of the letters in the signs under appeal." In short, this is an area of "low amenity."

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Whether there is any advantage in reducing the letters of these signs to a maximum of 3 ft. 6 in. high is certainly arguable: ASTRAGAL has never felt deeply offended by the invitation, in letters 8 ft. high, to drink Younger's, or in 6 ft. 6 in. letters to read the *News Chronicle*, but the theory that the scruffier parts of the South Bank should be treated as areas of "low amenity," to which lower standards of advertisement control can safely be applied than (say) to the area to be occupied by the new Shell offices, strikes me as rather extraordinary. Lambeth may be wrong in their ideas about the size of illuminated signs: but surely they are right in thinking that it is the job of planning authorities to raise the standards of amenity, particularly in places like the South Bank which provide an impressive (if in parts all too shabby) view from the opposite embankments.

WHAT HOTELS COST

ASTRAGAL always pictures Scottish hotel-keepers as hard-headed men who spend their wet days, when the mist comes swirling up the loch, writing up job reports and cost analyses of boiled mutton and sago pudding worked out to the last tenth of a penny. But this, apparently, is an illusion. It is not the precise number of capers to put in the sauce that occupies their minds today, but the cost of building. A conference on tourism in Edinburgh recently focused attention on the problem of replacing Scotland's heritage of Victorian and Edwardian hotels with some modern ones. The director of the Scottish Hotel School estimated the cost of reconditioning an old hotel at £600 a room, and of building a new one at £2,000 a room. And the remedy he suggested was a Government subsidy or an interest-free loan.

•

Surely the hotel industry, instead of uttering cries for the moon, should realize that we have moved out of the Edwardian luxury phase, and get a progressive cost-conscious architectural school to probe the possibilities of rational-functional hotel design. This is a type of building that has been almost totally neglected since the war, and the few hotels that have been built show no advance on pre-war designs. How much research, one wonders, has gone into the design of hotels of a much simpler character, that would satisfy the traveller's real requirements with the minimum of staff to run them, and without wasting anything on unnecessary tricks and adornment? Louis Erdi's new hotel for coach tourists, "The Dover Stage" (which the JOURNAL will be illustrating shortly), is at last breaking new ground. But we need many more good hotels for the Britisher who explores his own land with comfort and economy.

BUTLER AND BELLOTTO

"Fatter," said Reg Butler recently, when ASTRAGAL asked what his newest work was like. He was right, too. The current show of his bronzes and drawings at the Hanover Gallery, though it contains one or two old friends impaled on space-frames, consists mostly of new tall upstanding nudes balanced on fire-dogs and boot-scrapers, and they certainly *are* fatter. Not roly-poly, mind you,—they tend to take in sharply in the middle—but the top and bottom statistics often go about thirty-eight and forty-four, to scale.

*

Impressive? Yes, in an immediate and obvious way, and done with terrific verve and technical assurance. It is difficult to say more on the strength of a single visit, except that the exhibition is definitely in the Recommended class.

*

So, too, is the show of paintings of Warsaw by Bellotto, now at the Whitechapel. Big topographical studies, on special loan from the Polish National Museum, they show that this 18th-century Venetian, and kinsman of Canaletto, was a painter who really cared for architecture and the topography of towns.

BAUHAUS REVIVED

ASTRAGAL must apologize for some delay in referring to the recent visit of Sen. Tomás Maldonado, the distinguished Argentinian who has recently taken over the foundation course at Max Bill's revived Bauhaus at Ulm, but it has been a question of securing accurate translations of the two talks he gave while he was over here.

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Taking the two talks together, there emerged, firstly, a pretty radical critique of the present state of education in general, of the education of designers and architects in particular, and in even more particular, of the Bauhaus approach. Sen. Maldonado clearly knows more about pedagogical theory than practically anyone else working in Europe at the moment, and it was very disappointing to note a complete absence of top-flight first-year masters from his audience. They don't have to agree with all he says—ASTRAGAL didn't for one—but it would have done them more good than harm to have heard him.

Secondly, there was Maldonado's own method, as worked out in practice at Ulm, and in reaction against the Bauhaus approach. Though it was difficult to detect in it any clear signs of his professed desire for an Existential method in education, hinged around the idea of the individual in a human situation, his other concept of putting theory at the heart of practice came over well, as did also the entirely new theoretical layout of the course, divided—not, as at the Bauhaus, between Art and Technique—but between Equipment and Communication. It sounded a bit dry and abstract in places, many things seemed to be done with great organizational palaver that are done off the cuff by personal contacts over here, but it would be fairer to wait for fuller publication of the theory, and a longer run at the practice, before passing judgement.

PICTURE BOOKS

English architectural publications tend to rely more often than not for much of their matter on the written word with the minimum of illustrations. This is, no doubt, partly due to the literary-mindedness of the English, but also to the expense of block-making. Authors or editors are often given a very strict allocation of illustrated pages for any particular book. On the whole this produces cheaper but duller publications.

*

Both American and now German publications tend to rely very much more on photographs with the briefest explanatory notes. Such publications are expensive but far more interesting. Richard W. Snibbe's *Small Commercial Buildings** is a good example of this sort of thing. It costs £5 8s. in this country, but is almost solid with photographs. The range it covers is more one of cost than of building type, since it contains small office blocks, shops, banks, small hotels and even a mortuary; in fact, all the kinds of jobs an average architectural practice used to be concerned with, apart from houses, in this country and is concerned with in America.

*

Most of the work is of a very high order, and it is good to see that buildings designed by English architects are once again appearing in international publications and making a good showing. The photographs are good and large, and the written matter is critical and short. The main criticism is that the plans are too small and rather badly drawn.

* Chapman & Hall Ltd., for Reinhold Publishing Corporation, New York.



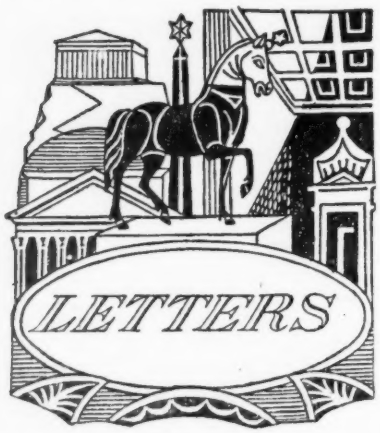
This portrait of Sir Hugh Casson, by Robin Darwin, stands on guard outside the Architectural Room at the Royal Academy's Summer Show.

NOT ON BROOM-STICKS

Jasha Shapiro, who was the technical boffin on the JOURNAL'S fairly recent study of heliports and their problems, has written what appears to ASTRAGAL to be a good book on *The Helicopter*.* Aimed at the general reader, but not the unintelligent one, it deals with helicopters—as it should—from the ground up, from first principles to last resorts. That is to say, it not only explains how a fan-dangle works, and who made it work historically, but also what it is likely to do to a society that puts it to work efficiently, in terms of economics, communications and town-planning. There are a fair number of boffin-type jokes—"In spite of earlier doubt, human flight has been achieved, but not on broom-sticks"—and rather too many misprints for a book that costs a guinea. One of these printer's errors might have a future in *Counter-attack* circles, however—"town planning pustulates" seems to describe fairly accurately what happens around some of our larger cities. *Pustulate*, according to my dictionary, is to break out in pimples, warts or wart-like excrescences.

ASTRAGAL

* Frederick Muller, 21s.



A. Kirk, Chairman, BS 1311 Committee

W. F. Lewis Ball, *A.R.I.B.A.*

W. Kent, *F.I.A.S.*

I. Lord,
Secretary, West Midlands Advisory Committee for Technical, Commercial and Art Education, Birmingham.

G. S. Newman

K. W. Dale

Mistaken Standards

SIR,—Your attack on British Standard 1311:1955 in the article headed "Mistaken Standards" in your issue for April 4, 1957, seemed to me unnecessarily bitter. This Standard, which covers sizes for manufacturers' trade and technical literature, is described by you as "spavined," "knock-kneed" and "graceless," and you state that on æsthetic grounds it comes "a hideous cropper." While there is clearly room for more than one opinion as to whether the sizes recommended by BS 1311:1955 are æsthetically satisfying, some of the words used by you strike one as a little out of place. It is difficult to see, for instance, exactly how BS 1311:1955 could be "spavined"—a spavin being a kind of tumour on a horse's leg.

There were, in fact, sound reasons why the sizes recommended in BS 1311:1955 were adopted as a British Standard. One of these reasons was that more varieties of paper were available in these sizes than in any other set of sizes, and printers can obtain art papers, chromo papers, machine coated papers, and printing and writing papers in these sizes from stock. The Standard has had a large backing and it has been an important factor in reducing the indiscriminate use of different paper sizes.

As regards the "A" series of paper sizes, there is no doubt that this has outstanding merit, and it may well be that the "A4" size (210 mm. × 297 mm.—or approximately 8¼ in. × 11⅝ in.) will one day be adopted as a British Standard. That day will arrive only when the demand for the "A" series has reached the necessary proportions. In the meantime it would surely be a forward step if the present Standard was increasingly adopted by users, but I feel that the cause of standardization generally will not have been greatly helped by your harsh criticism of BS 1311:1955.

A. KIRK.

West Wickham.

The Editors reply:—

One of the main arguments in our leader was that the kind of reasons which seem to have determined the sizes chosen by BS 1311:1955 (*i.e.*, the number of existing paper sizes which already conform to it) are insufficient if the resulting product is unsatisfactory. We based our case against the sizes canonized by BS 1311:1955 on æsthetics, and rightly: for the architect for whom the finished product is intended is deeply influenced by æsthetics. But the BS 1311 sizes look bad because they are in fact inconvenient. The front sheet on any piece of trade literature must have a clearly designated title. When you take the space required by the title off the top of a sheet to BS 1311 size the space left beneath it is uncomfortably near a square. This looks unpleasant, but it is also uneconomic because the space taken off by the title represents too great a proportion of the usable space of the sheet. That is undoubtedly why most trade literature based on BS 1311 has mean titling. Our bitterness arose from the fact that standardization has been given a bad name among architects (who are otherwise its most enthusiastic supporters) precisely because standards are based too often on the convenience of the existing makers of the product and take too little account of the requirements of good design (*i.e.*, they standardize on what *is*, not on what ought to be). The occasional bad standard may not do much harm, but where it receives the massive backing of the RIBA and the BC it is another matter.

To this in all honesty we must add a private reason for bitterness: which is that though the JOURNAL is unquestionably the pioneer of good trade literature for architects, it was at no time consulted about BS 1311. It has been explained to us that BSI can only ask trade associations to appoint to committees, not individual firms; and that the responsibility for the JOURNAL'S exclusion from the BS 1311 Committee must therefore rest with the JOURNAL'S trade association, not with BSI. All the same, until A4 is registered in the BSI statute book, we will continue to feel that we are in some measure the victims of a conspiracy. In the meanwhile we will continue to trounce the existing BS 1311 sizes whenever the occasion offers.

SIR,—It seems a pity that the standard to which you refer was not related to the well-known Imperial size of 30 in. × 22 in. which would have resulted in a leaflet of 11 in. × 7½ in. The inch by which the *RIBA Journal* exceeds this width would have made a generous margin for binding! And speaking of binding, the *RIBA Journal* possesses one supreme advantage, and that is that it may be opened out flat.

W. F. LEWIS BALL.

Westcliff-on-Sea.

Elemental Bills

SIR,—Apropos current discussions on Elemental Bills of Quantities, may I venture to suggest that the somewhat academic exercise which these Bills represent is no more than a documented form of presenting to the architect information which is normally given to him quite readily by a quantity surveyor. It appears to me that the supporters of Elemental Bills tend to overlook the importance of the co-operation which exists almost as a matter of course between architects and quantity surveyors, and I would regard it as most unfortunate if the alternative to co-operation is to be a more complex Bill of Quantities.

Additionally, production of the Elemental Bill must logically lead to an increase in the scale of fees, and so will add to the overall cost of building, and will also tend to increase the time required for preparing the Bills.

Surely there are grounds for considering methods of simplifying Bills of Quantities, rather than to elaborate them. We are functioning in an era of new materials and also of new techniques with traditional materials, but few of these have yet influenced the Standard Method of Measurement.

W. KENT.

Sunderland.

The Editors reply:—

We do not regard the Elemental Bill as "an alternative to co-operation." Rather the other way about, because its preparation calls for *closer* co-operation between architect, q.s. (and builder) in deciding element headings and the ascription of items to elements. And the finished document is much more intelligible to the architect than the trade bill because items are identified with the parts of the building.

Courses in Planning

SIR,—In one of the recent issues of the JOURNAL there is a reference to courses in town planning being established at Birmingham.

Your paragraph is misleading in its implication that there have been no courses in the West Midlands and overlooks the successful part-time course which has been conducted at the Wolverhampton College of Art since 1950. This leads to the qualifications of the Town Planning Institute.

I. LORD.

Birmingham.

Mediocre Brighton

SIR,—The week after your columnist, ASTRAGAL, had reported the decision of Brighton Council not to appoint an outside architect to design its proposed College of Art, the council turned down another proposal, again by a large majority, to call in Messrs. Robert H. Matthew and S. Johnson-Marshall for joint consultation on the design of the new Brighton College of Technology.

ASTRAGAL'S surprise at the Art College decision seems to suggest that he is unaware of Brighton's present-day reputation for mediocrity in architecture and planning. Regrettably, Brighton Council seems determined that the town shall not possess any modern building distinguished enough to stand comparison with those upon which its architectural fame rests.

G. S. NEWMAN.

Hove.

The "Star" and the LCC

SIR,—I have read with interest your comments on the recent series of reports in the newspaper, the *Star*.

Doubtless as you suggest the newspaper sensationalized the reports of condensation at Ackroydon estate and your very balanced comments would, if they could reach the appropriate section of the community, do much to put the matter in proper perspective. I feel, however, that you are preaching to the converted and unfortunately your comments will never reach the public who should be informed.

Flats of the Ackroydon type, indeed all dwellings which are now being erected, will be lived in, in 15-20 years time, by a new generation who will have become accustomed to central heating and hot water services in their places of work and leisure. It is not unreasonable to assume that they will want and be prepared to pay for central heating and hot water in their homes. At the moment it is probable that the average tenant who is being rehoused in such buildings has been accustomed to

paying not more than £30 a year as a total expenditure for solid fuel, gas and electricity. It must come as a shock to have to spend this much on heating alone. They would be the first to agree, however, that to achieve such economies they have had to live in only one room and do with little hot water.

If central heating is not provided in new buildings people will be forced to use their new flats or houses in the old way because they find the cost of operating individual solid fuel, gas or electrical appliances prohibitive. Is there any point in providing accommodation to modern standards if by an omission such as central heating one forces people into a one-roomed existence?

I have for some time felt that the systems of accounting for the cost of heating and hot water services are wrong. The fact that a heating installation, no matter what form it takes, has been provided affects the rating and value of a dwelling. The rateable value of a dwelling in which central heating has been installed will be higher than that of a dwelling in which coal fires have been provided. It is not unreasonable to assume, therefore, that the property will command a higher rent. If this is accepted there could be a standard charge in the rent as is the case with open-fire dwellings to cover the capital cost of the heating plant; it would then only be necessary to include the fuel, power, water and labour costs in an analysis of a heating and hot-water installation. This method is accepted with the open fire and other conventional systems; why not with centralized systems? Such a method of costing would prevent continual argument and lay many ghosts.

K. W. DALE.

London.



RIBA

High-Density Housing

The RIBA is arranging a one-day Symposium on "Family Life in High Density Housing, with particular reference to the design of space about buildings," to be held on Friday, May 24.

The following is the programme:

At the morning session (10 a.m.), the chairman, Professor Sir William Holford, will talk on "The Problem as seen by a Town Planner." Following this will be "The Problem as seen by a Sociologist," by J. H. Westergaard (The London School of Economics and Political Science). "The Problem of Social Welfare," will be discussed by Mrs. Muriel Smith (London Council of Social Service). "The Problem as seen by a Housing Director," will be J. P. Macey's contribution. He is Housing Manager to the City of Birmingham.

H. Blom will open the afternoon session with "The Solution of the Problem in Stockholm."

Other afternoon talks will be "The detailed design of site layout, including landscaping," by Peter Shepheard; "Playgrounds," by Lady Allen of Hurtwood; "The design of Nursery Schools associated with housing," by John Stillman; and "Current Practice in Great Britain," contributions from architects from various parts of the country. This session will be under the chairmanship of G. A. Jellicoe.

There will be a small supporting exhibition illustrating the theme of the Symposium.

Tickets for the Symposium cost £1 1s. and applications, enclosing cheque or postal order for this amount, should be made to The Secretary, RIBA, 66, Portland Place, London, W.1. Envelopes should be marked *Symposium, May 24*, in the top left-hand corner. This fee will include advance copies of the papers, a full report of the Symposium and morning coffee and afternoon tea (but not lunch) on the day of the Symposium.

EDINBURGH ASSN.

Prof. Matthew's Award

Professor Robert H. Matthew has been awarded the first Centenary Bronze Medal of the Edinburgh Architectural Association for his design of the Turnhouse (Edinburgh) Airport terminal building. The medal is to be awarded annually for outstanding contributions to the art of architecture. The council of the Association decided that the first award should be made to an architect who, as a member of the chapter area, had been responsible for a building begun since the end of the second world war. The assessor, John Summerson, described Professor Matthew's design as one of "outstanding directness and clarity."

INVESTIGATION

Into Restrictive Practices

The membership of the Restrictive Practices Court, which is to investigate whether restrictive agreements are in the public interest, has now been completed. The only member with any apparent knowledge of the building trade is Sir Godfrey Mitchell, a part-time member of the Court, chairman of George Wimpey & Co. Ltd. The legal members of the Court are Justices Pearson, Devlin, Upjohn and McVeigh, and Lord Hill Watson. Among the first agreements which the court is to investigate are those concerning structural steelwork and shell boilers.

SOLID FUEL

Delivery and Storage in Flats

Most of the architects who spoke in last week's conference in London on the delivery and storage of solid fuel in flats made no secret of their feeling that coal should neither be delivered to flats nor stored in them (writes a correspondent). In this they were distinctly out of order, for any suggestion that flats should not be heated by individual solid fuel appliances was outside the scope of the conference. It was called to discuss a report on the subject by a Joint Committee of the London Regional Committee of the Coal Utilisation Council and the London branch of the Institute of Housing. But the architects, like all the other delegates, agreed that this report (a note on which will be published in Information Centre shortly) does contain some very useful advice and conclusions for architects who have to cope with the problem of delivering and storing so bulky and dirty an article as solid fuel to flats.

Much of the discussion (which did not add greatly to the report) turned on the possibility of solid fuel being packaged and delivered clean in the mid-twentieth century manner, either in small metal containers such as are used in Paris, or in paper bags. Manufacturers' representatives offered to make the containers, or the bags (7d. for a 56-lb. bag), and there were some optimistic suggestions (from women) that husbands would not mind going down to the ground floor to pick up paper bags of coal from a store to which the coalman would deliver it. But one could not help thinking that the coal merchant who feared some disaster from paper bags disintegrating half-way up (not to mention disintegrating husbands) was closer to reality. The main obstacle raised by the coal merchants, however, to a clean packaged delivery service was the cost. Pay us more, they all said, and we will do it.

This brought down on their heads the wrath of Clifford Culpin, the chairman of the RIBA town planning and housing committee, who pricked the rather smug attitude of the coal merchants by declaring that the question for them was whether they could afford *not* to deliver packaged coal. In what was almost the last speech of the conference he sounded a knell in their ears by telling them that one large city authority had already decided to get rid of the coal nuisance by going over to electric heating. Hence his appeal to the trade not to continue to inflict upon us a system of antideluvian antiquity, but to devote their energies to making coal delivery as up to date as the deliveries of other commodities.

The general view of the conference seemed to be that solid fuel must be delivered to the door of the flat, that the store should be outside but wholly under cover, that the system of shooting the coal from the outside into a store from which the housewife digs it inside is by no means a final solution, and that architects should consult with housing managers about coal delivery at the design stage. The small size of coal stores was severely criticized, first by Mr. Culpin who said that the blame rested not with the architects but with the constant reductions in overall space standards and the consequent squeezing down of all minor items. John Pinkheard pointed out that if stores are too small for coal, they are twice too small for coke, and emphasized the need to double the size of coal stores in smokeless zones where smokeless fuel would be used.

But, after hearing the many admirable suggestions for making it easier for the coal lorry to get near the flats, and for the coalman to go up in the lift and along a short corridor without breaking his back or soiling the walls, one was left with the overwhelming impression that coal and flats do not go well together.

MOHLG

The New Planning Authorities

Some figures given to the House of Commons last week by Henry Brooke, the Minister of Housing and Local Government, show how many new planning authorities may be created if the government's proposals for the delegation of certain planning powers are carried out. In addition to the 55 non-county borough and urban district councils with a population of more than 60,000, to which powers

CRITICISM

The architect replies

Last week we illustrated the police headquarters in Earl's Court Road, W.8 (designed by J. Innes Elliott, chief architect, architect's department, New Scotland Yard) together with a criticism of the building by J. M. Richards. Below we print the architect's replies to the points made by Mr. Richards.

Many of the points raised by Mr. Richards reflect what were well recognized problems when the post-war design of this project was developed some six or seven years ago, and which was to a great extent grafted upon the existing pre-war foundations.

It is clear that the planning problem has been fully appreciated and we can only add that the limitations imposed by the restricted site, by the presence of all the foundation works—originally provided for a very different building indeed—and by the present-day needs of the Town and Country Planning Act in respect of light and air, left the architects with the most difficult choice between so arranging the exterior as to give a clear indication of the variety of user and internal arrangement on the one hand, and on the other admitting the possibility that the main façade should be regarded purely and simply as a piece of street architecture. This latter alternative was accepted for several reasons, of which one was a strongly expressed preference from one of the interested authorities.

The main frontage looking across Earl's Court Road.



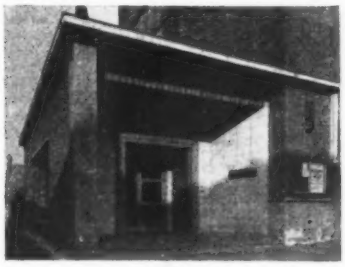
The form of construction adopted was regarded at the time as a necessity for certain buildings which would be required to function under the impact of hostilities. The result was that the brickwork of the main façade was built in Quetta bond and that the ground floor and basement were so designed as to be capable of almost immediate conversion to operational use in the event of emergency. This is the reason why the division between the modes of treatment occurs between the ground and the first floor. Thus the ground floor, together with the main entrance, was developed to read as a podium. It is now admitted that the capping which runs across the entrance vestibule and the ground floor windows might with advantage have been treated more boldly, though when seen from the pavement in front of the building the three-dimensional aspect provides a depth and scale which cannot be fully appreciated when the building is seen in true elevation.

Notwithstanding the requirements which led to the treatment described, we feel that Mr. Richards's suggestion—that covering up the windows of the four upper floors exposes the weakness of the building—presents its own particular difficulties. Certainly the first-floor windows, in terms of solids and voids, could not live happily with those of the ground floor and we feel that this unhappy arrangement could only have been resolved by a change in treatment which would have defeated the purpose of the Quetta bonding of the wall of the first floor or the intentional treatment of the ground floor windows, for the latter had to be kept to a minimum size consistent with providing adequate daylight for the occupants of the rooms behind them.

Turning now to Mr. Richards's views about the use of materials, we should like to say categorically that we respect his views and appreciate much, if not all, that lies behind them. In matters of taste, underlying ideas must play their part and influence treatment. Traditionally the work of the police has, it would seem, called for an outward expression rather more rugged than delicate; particularly is this so in a building intended to function in special circumstances. We feel that this point is almost implied by Mr. Richards's generous appreciation of some of our housing work, the character of which, we hope, marks a definite contrast between the policeman's work and home life. We feel that a rugged detailing of the particular materials used was consistent with their respective inherent characteristics; particularly does this apply to the granite and Agba. The granite squares set in the plinth serve to produce a sense of rhythm, the absence of which would have emphasized what approaches a duality between the plinth proper and

the strip of walling immediately beneath the ground floor windows. Incidentally the height of the plinth and its projection were determined by the work carried out on the pre-war contract.

Apart from the fact that the situation of the bedroom block and the two main staircases was controlled by the original foundation work, our examination of the problem in the light of post-war town-planning requirements satisfies us that the only alternatives, adequate to accommodate the required number of bedrooms, would have been a tall slab running through the centre of the site at right-angles to Earl's Court Road, or a slab somewhat narrower than the width of the site on a centre line parallel with and about two-thirds the depth of the site from the back line of the pavement. Either of these forms would have spoilt the development of a central courtyard, which was necessary to provide adequate daylight for the rooms opening on to it. Whilst in certain programmes a T-form building would be satisfactory, it was realised that the circulation requirements of this type of police building could not be met in this way. Finally, on the question of access, though it is admitted that the function of District headquarters is separate from that of a sub-divisional police station, the entrances to both units would, to meet the clients' requirements, have to be on the main frontage. To have provided two separate entrances would have meant a certain weakness of the potential physical strength of the main façade, and it is perhaps worth mentioning that with the possible ultimate use in mind the architects have taken some pains to provide entrances at the two extreme ends of the building: one at the left-hand end of the facade from Earl's Court Road; the other just around the corner at the right-hand end, which gives access to the section-house. Should the former at any time become unusable, there would be no difficulty in providing access for the public to the District headquarters and sub-divisional station from the section-house entrance hall.



Main entrance from the Earl's Court Road.

What readers think

The following letter refers to the warehouse and offices at Nottingham (designed by J. M. Austin-Smith) which J. M. Richards criticized in the JOURNAL on April 18. The architect replied to Mr. Richards on April 25.

SIR,—Having recently completed a warehouse and office building, we were particularly interested in the Farrands building at Nottingham, and your critic's commentary.

He is, of course, right in his remarks on form, that is, æsthetically speaking. Design is, however, also concerned with financial as well as æsthetic values. Clients are keen to save land (often expensive) for what they consider is the "productive" part of their project, and to reduce perimeter of enclosure to floor area, hence those places with factory or warehouse as near as possible to the building line, with the offices ("non productive"), squeezed in-between, sharing a wall with the factory.

A chance to break away from this occurs on corner sites, which seems to be the case at Nottingham, but on sites with one road frontage only, the economic pressures invariably tend to mould the form, often it is done against the architect's instinctive feelings.

J. M. Richards does not say whether the warehouse will be serviced by fork lift trucks. Apparently not, as the planning provides for conventional raised floor to loading floor. We have seen how profoundly this conventional relation of levels is affected when fork lift equipment comes in. The fact that a fork lift truck is virtually a mobile loading platform, makes it unnecessary, and indeed inadvisable, to raise the warehouse floor; this could save money in building cost, an advertising point of which the makers of fork lift trucks migh make more.

With the rest of his comments we largely agree, particularly those favourable about the appearance. We would not be architects were we not disposed to raise two criticisms—one on planning. Could not the positions of the large general office and the small accounts office have been reversed to reduce the ratio of corridor to working space, and is it logical—dare we say practical—to cover one part of the structure with an expensive durable material, in this case slate over the columns, and the other with a much cheaper and vulnerable material—paint to the concrete floor and edgings?

Apart from the unifying effect at the junction with the canopy, the treatment of the structure at this point seems to disintegrate.

A final word about the caretaker's house. Winders on the staircase of a four-bedroom house? Bedroom window cills 4 ft. 6 in. above floor level, and no window, at least not on plan, to quite a large store. Perhaps the door is glazed. We cannot see any justification for these functional aberrations unless, perhaps, æsthetic? Probably for this is the aspect in which this design undoubtedly succeeds.

GRENFELL BAINES and HARGREAVES.

[We have invited the architect to reply to this letter. —EDS.]

NEWS—continued from page 729

would automatically be delegated, there are an immense number with smaller populations which would probably acquire the power to control development. There are 567 with a population under 20,000, 181 between 20,000 and 40,000 and 78 between 40,000 and 60,000. There exists the possibility that 881 new planning authorities may be created in England and Wales.

This figure certainly adds weight to this JOURNAL's fears that the planning staffs do not exist to form such a multiplicity of planning authorities; inevitably the newly-delegated powers would be exercised by the borough engineer in the great majority of cases. It is interesting to see that the White Paper containing these proposals stresses that urban or non-county borough councils should not be entrusted with responsibility for classified roads unless they can employ the highly-qualified staff required. "But, at the other end of the scale," it observes "applications to develop under Part III of the Town and Country Planning Act can be handled by most district councils, given co-operation with the County Council and reference to it of difficult or major cases." The implication here is that planning control, unlike highways, does not call for a highly-qualified staff.

COST CONTROL

Second AJ Talk

James Nisbet was the speaker at the second of the lecture discussions being organized by the JOURNAL and the Regent Street Polytechnic School of Architecture, on Tuesday of last week. Once more it was a full house, with over 350 in the audience, about half of them architects and the remainder quantity surveyors and builders. Many applications had to be turned down for lack of space.

HUBERT BENNETT, Architect to the LCC, was in the chair. He opened the evening with a brief but glowing tribute to the MOE achievement of steadily-decreasing school costs since 1948, and to James Nisbet's contribution to this work. "We owe a very great deal to his efforts," he said.

JAMES NISBET said that the industry and the professions were leaving the stage of "learning by copying" appropriate to craft methods and were entering the stage of solving our problems by analysis and synthesis—hence the development of management studies of which cost planning was one particular tool. He then described our present procedure of designing "in the dark," not knowing the cost until tender stage, and illustrated the wide variation of school area per place and cost per sq. ft. within a constant cost per place to show that schools are not standardized and that hunches and intuition are not enough as a guide to costs. He defined the term "element," explained the origin and purpose of the elemental breakdown—to relate cost to function (in the architect's sense of the word)—and showed four different breakdowns now in use.

The speaker then pointed out the snares of using ft. cube as a cost unit—it can show an unreal difference between two costs which are in fact the same—and explained how cost per sq. ft. was generally the most sensitive measure of accommodation provided. The "cost picture" of a building was then completed by information on quality (brief specification notes) and on quantity (areas or numbers of each element) and finally on market conditions (size of the contract, location, labour problems and so forth). Nisbet then explained the uses of cost analyses to compare different buildings—the way in which a number of elements in one job may be added together so that the function they perform collectively, corresponds to different elements in another building. "When the functions correspond precisely, then the costs may, after adjustment for differing quantities, be directly compared," he said.

Finally, referring to a question at the previous lecture, he said it was quite wrong to suppose that a quantity surveyor could tell the architect where his extravagancies in design or construction lay. "The quantity surveyor has no knowledge of the client's requirements, of the functional standards or of the environment that the architect is designing for," he concluded. "The quantity surveyor should present the information, for the architect to decide."

The paper was followed by a lively discussion. In his closing remarks the chairman referred again to the astonishing record of school costs, suggesting that the day was gone when we could design and "hope for the best" and that "the biggest contribution that the quantity surveying profession could make would be to provide early cost information to the architects."

Note: We intend to publish the full texts of all the lectures, and the discussions together in future issues. If you want extra copies of these issues you should apply for them now.

INDUSTRY

Fewer Plans Approved

The number of industrial building schemes approved by the grant of Board of Trade Industrial Building Certificates continued to decline in the first quarter of this year, when schemes totalling 13·7 million sq. ft. were approved. This compares with 15·3 million sq. ft. in the last quarter of 1956, and 21·7 million sq. ft. in the first quarter of 1956.

It is now estimated, however, that the area of schemes started in the third quarter of last year (the latest period for which such an estimate is available) was 17·3 million sq. ft., which is higher than for some time.

SYDNEY

Hitch in Opera House Competition

There seems to be some possibility of a hitch over the Sydney Opera House, as a sharp internal struggle is taking place within the Labour Party which controls the government in New South Wales. The Premier has announced a proposal to make a state Government contribution of £A100,000, and to introduce quarterly lotteries with first prizes of £50,000. This proposal has been approved by the Labour Party caucus by 24 votes to 17, but the minority which is opposed to the Opera House project on the ground that it favours "silver-tails" (the upper-classes) has put down a motion to rescind this decision. Until this motion has been debated next month the appeal cannot be launched.

SLUMS

More Rapid Clearance

The quarterly housing returns published last week, show that the rate of slum clearance was considerably more rapid during 1956 than during 1955. In England and Wales 34,852 houses were demolished or closed under the Housing Acts in 1956, compared to 25,229 in 1955, while the number of people moved from these houses increased from 75,918 to 108,384. In Scotland, where the slum problem is more acute, the number of houses closed rose in the year from 4,289 to 5,783. No figures are given in Scotland for the number of people moved out, but on the basis of 3½ people per house the number would be about 19,000. Demolition seems to lag behind closing in Scotland, for at the end of the year the number of houses closed but not yet demolished had risen from 4,289 to 9,166.

The government's original target for slum clearance was given in 1953 as 200,000 people a year to be moved out of the slums. The rate achieved last year was the closure or demolition of 40,635 houses and the removal of approximately 127,000 people.

The number of new houses completed in the first three months of 1957 shows a slight advance, 76,515 compared to 67,715 a year ago. Private builders provided 29,362, and public authorities 47,153.

LETTERING

A Talk at the DIA

A correspondent writes :—

Does one read lower case (little) letters faster than capitals? Noel Carrington in his lecture on A New Approach to Public Lettering to the Design and Industry Association asserted that we do, and that consequently all traffic signs, railway, and city transport lettering should be in lower case letters. To prove his point he produced examples of the Ministry of Transport sponsored black, white and yellow road signs—those very nasty enamelled metal rectangles with road numbers very large and place names rather smaller, in sans serif capitals with boxes round them which one knows too well, and some of the alternatives which he suggested. There was no doubt at all that the alternatives were more pleasing, largely because the boxes were omitted and the spacing was better. I should imagine that they were also much quicker to read at 60 or more m.p.h. Mr. Carrington's plea that the lower case letter with its pattern of ascenders and descenders is much easier to recognize than the rectangular block to which all names are reduced by capitals is entirely convincing. What one questioned was his premise that quick reading was the overriding consideration in the design of road signs. At this point we all tend to take sides according to whether we drive or not. Personally I am a pedestrian and think that what matters most is that the sign, which to me is large and permanent, shall ornament and not disfigure the town—or landscape. But in this case there was in practice no disagreement as the signs officially inflicted on us are both ugly, and hard to read.

Mr. Carrington went on to apply his principle to London Passenger Transport lettering, accusing the Board of living on the prestige of their Johnston lettering. He carried most of his audience in his plea that the station names on automatic ticket machines are curiously difficult to read and would be better in lower case. But I fail to see why we need to read station names faster and faster or why the LTE should need to go on thinking about their lettering (which they were accused of failing to do) when they have anything so good and so historic. The familiarity, uniformity, ubiquity and lucidity of their lettering is one of the few restful things left in the streets of London.

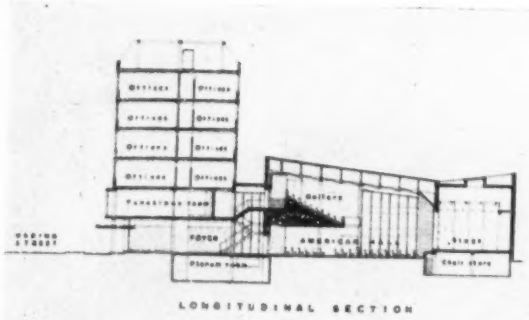
OBITUARY

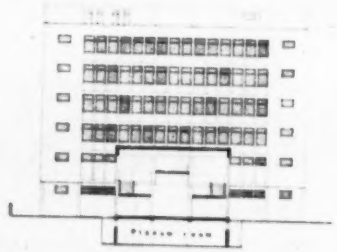
Dr. G. E. Foxwell, C.B.E.

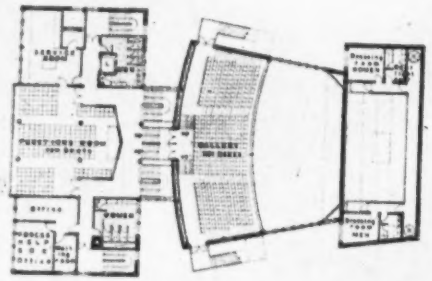
We learn with great regret of the death of Dr. G. E. Foxwell, C.B.E. Born in 1892, Dr. Foxwell was a lifelong exponent of fuel efficiency and of its concomitant, clean air. A member of Sir Hugh Beaver's fuel efficiency committee and a former president of the Institute of Fuel, he was a leading figure in the drafting of the Clean Air Act 1956, of which so much good is expected. He was the author of two articles on the Clean Air Act which appeared in the JOURNAL on April 4 and 11.

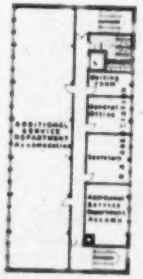
FIRST PRIZE-WINNING DESIGN IN THE NORTHERN IRELAND WAR MEMORIAL COMPETITION

FIRST PRIZE-WINNING DESIGN IN THE NORTHERN IRELAND WAR MEMORIAL COMPETITION

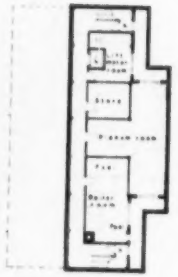


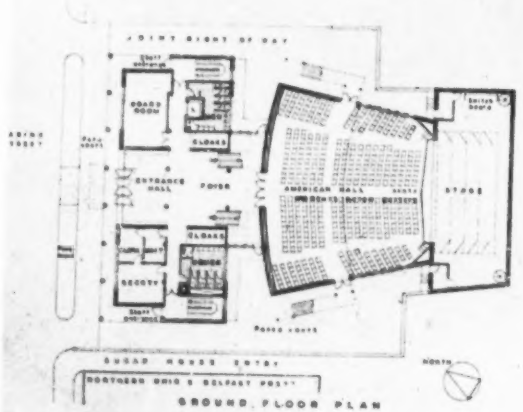


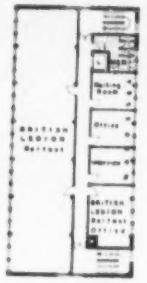


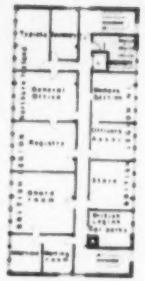


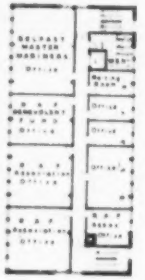










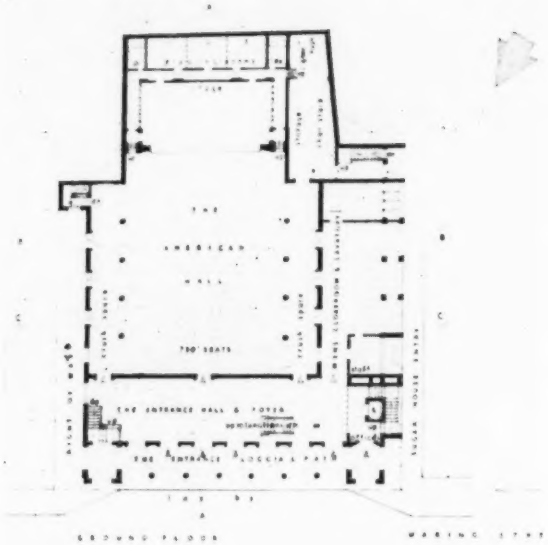


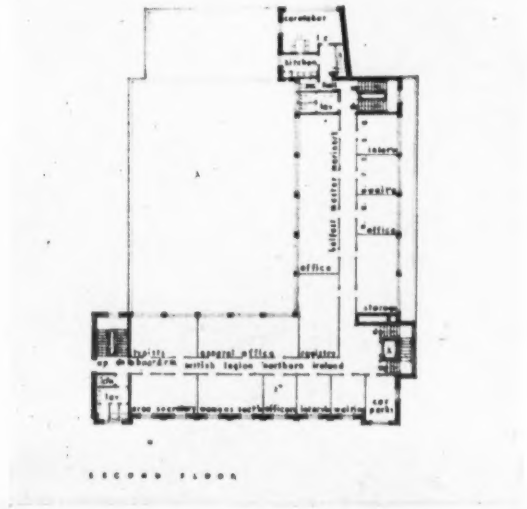
Michael Bowley, of London, has won the first prize of £750 with the design illustrated on this page, in the competition for the Northern Ireland war memorial building in Belfast. The winning design is to be built by the trustees as soon as possible. The assessors were M. A. Dod and R. C. Wilshere. The conditions stated that the building, on a blitzed site in the city centre, was to contain a public hall (to be called The American Hall in memory of American fallen), an entrance hall with a "dignified approach," a functions room and offices. Mr. Bowley has planned his design symmetrically about an axis, with the main entrance to the foyer and public hall placed centrally in the Waring Street facade. The functions room is on the first floor, and above that the office block rises to five storeys with caretaker's flat above. The fan-shaped American Hall lies at the rear of the

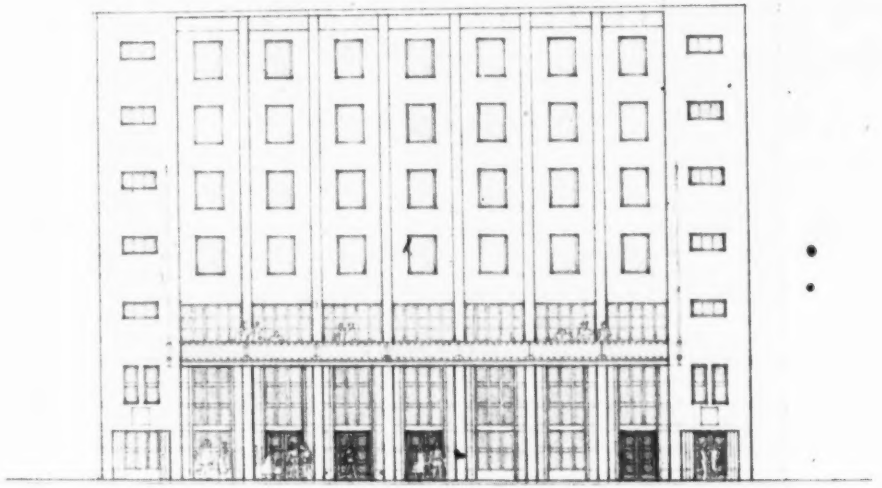
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office block. Construction is r.c. frame and Portland stone facings. There were 62 competitors. Those who were awarded honourable mentions are: Anderson Stewart and Alexander Duncan Bell, Belfast; Munce and Kennedy, Belfast; Derek F. Bottomley and Antony L. Pearce, Leeds; Peter Silsby and Douglas Henry Griffin, London; Anthony R. Osborne, East Molesey.







ELEVATION TO MARINE STREET

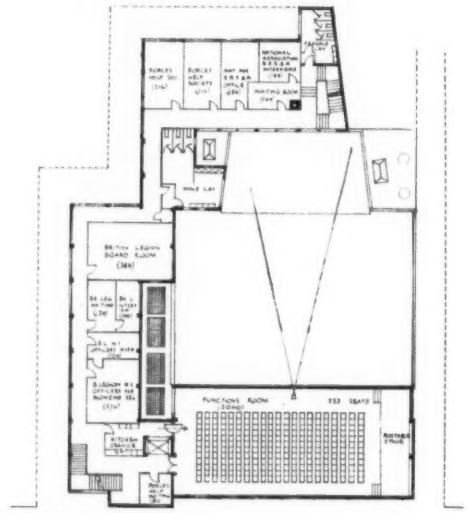
SECOND PRIZE-WINNING DESIGN

The second prize-winner, W. F. Howard, of London, who gets £500, said that in preparing his design he contended that "if the promoter's expectations for a spacious and dignified building worthy as a lasting memorial to the fallen whom it commemorates were to be fulfilled, it would be essential to plan the assembly hall and other public spaces on the broadest possible lines, separated as far as possible from the office accommodation so that the two sections could function independently. Accordingly, the lower part of the building is entirely given over to public use with the upper floors reserved for offices." "It was also necessary," he says, "to give regard to the building's differing functions and unify them in an architectural character worthy of the purpose of the building."

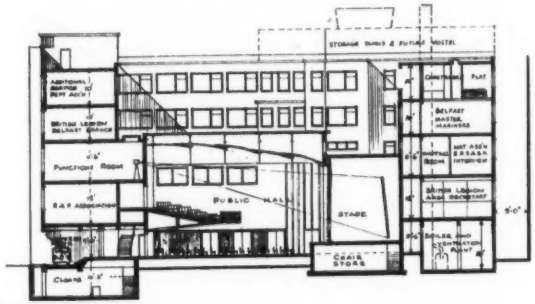
THIRD PRIZE-WINNING DESIGN

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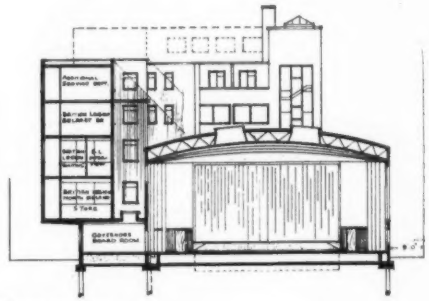
THIRD PRIZE-WINNING DESIGN



Second floor plan

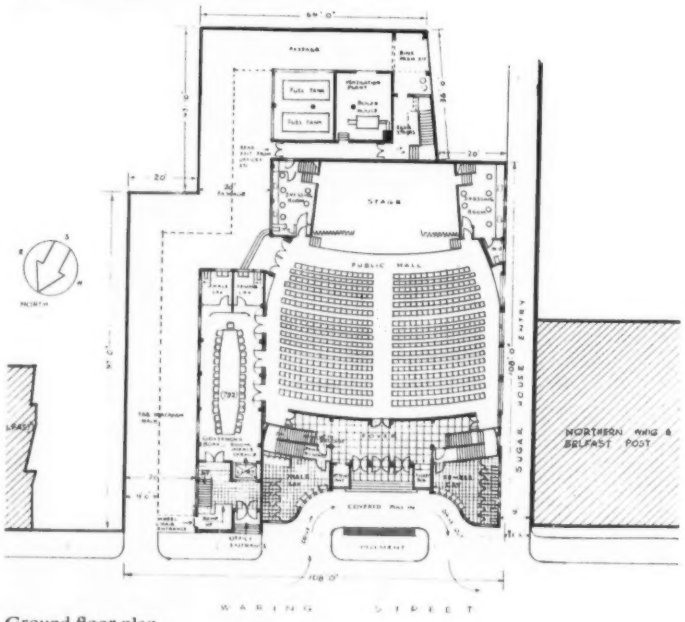


Long section

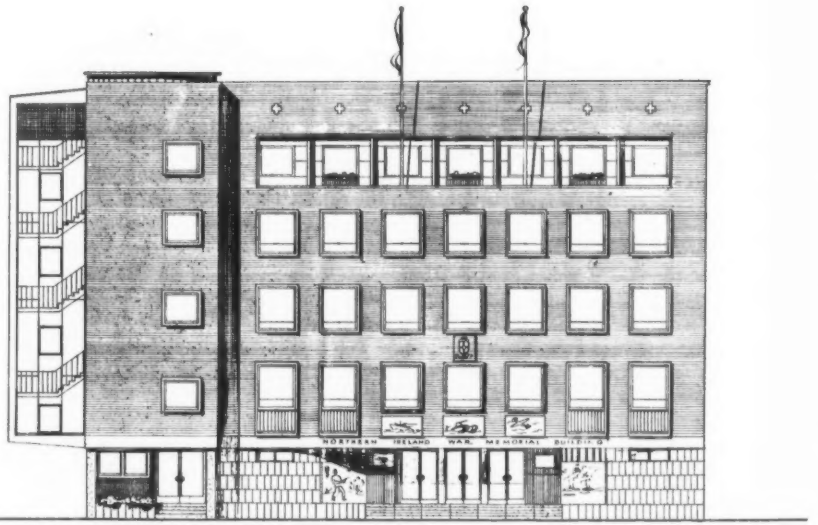


Cross section

The third prize-winner, W. Granville Smyth, of N. Ireland, who is awarded £300, has designed the top offices to look inward so that there is good lighting and quietness, and the thin stretches of building with a corridor on one side provide cross ventilation. The entrance foyer is not large or elaborate, as the entrance steps to the building are set back from the pavement to enable the cars to drive up to off-load arriving guests, and the building from first floor up acts as a cover over the drive-in road. The square shape of the assembly hall is due to " the nature of the boundaries of the site."

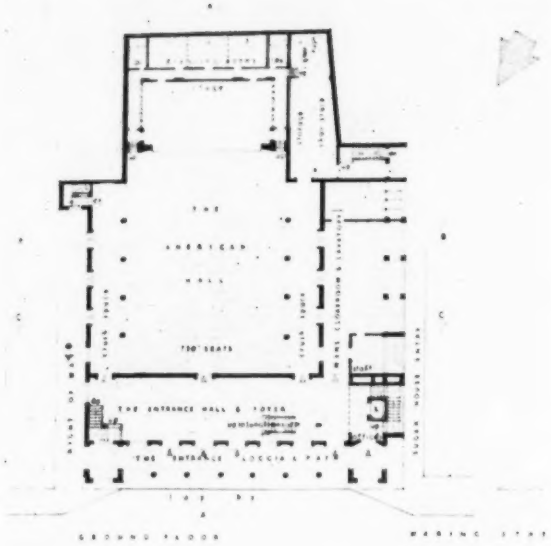


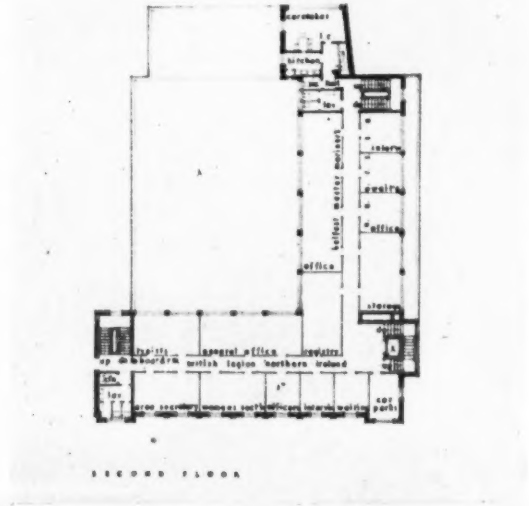
Ground floor plan

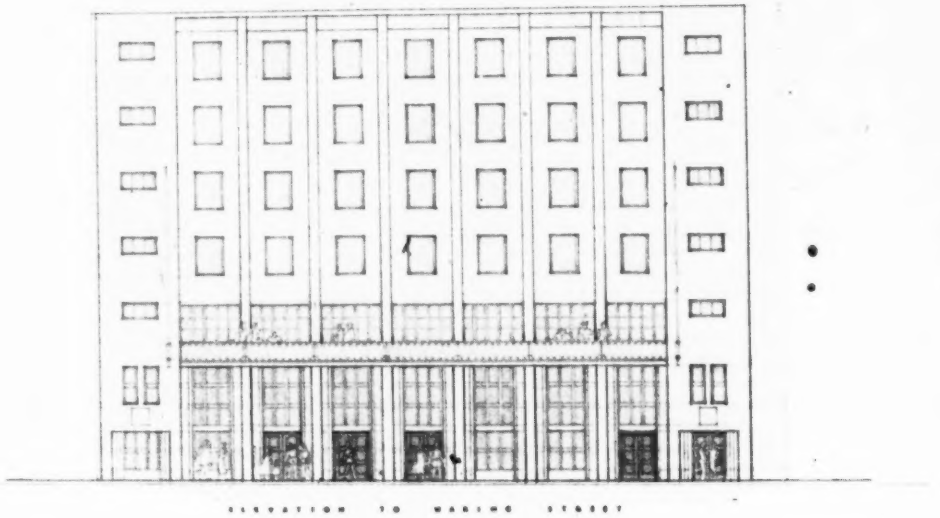


Elevation to Waring Street

office block. Construction is r.c. frame and Portland stone facings. There were 62 competitors. Those who were awarded honourable mentions are: Anderson Stewart and Alexander Duncan Bell, Belfast; Munce and Kennedy, Belfast; Derek F. Bottomley and Antony L. Pearce, Leeds; Peter Silsby and Douglas Henry Griffin, London; Anthony R. Osborne, East Molesey.







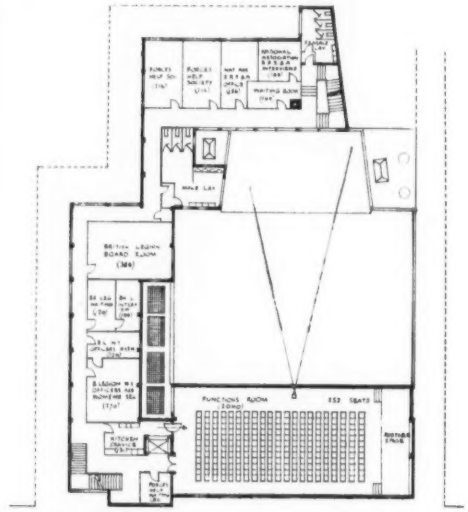
SECOND PRIZE-WINNING DESIGN

The second prize-winner, W. F. Howard, of London, who gets £500, said that in preparing his design he contended that "if the promoter's expectations for a spacious and dignified building worthy as a lasting memorial to the fallen whom it commemorates were to be fulfilled, it would be essential to plan the assembly hall and other public spaces on the broadest possible lines, separated as far as possible from the office accommodation so that the two sections could function independently. Accordingly, the lower part of the building is entirely given over to public use with the upper floors reserved for offices." "It was also necessary," he says, "to give regard to the building's differing functions and unify them in an architectural character worthy of the purpose of the building."

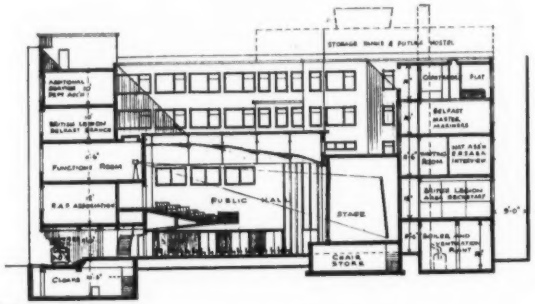
THIRD PRIZE-WINNING DESIGN

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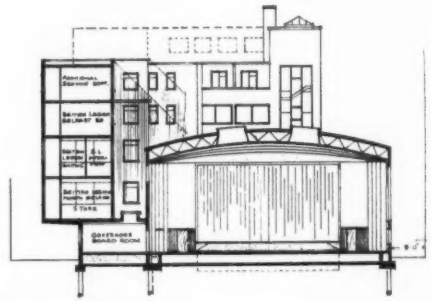
THIRD PRIZE-WINNING DESIGN



Second floor plan

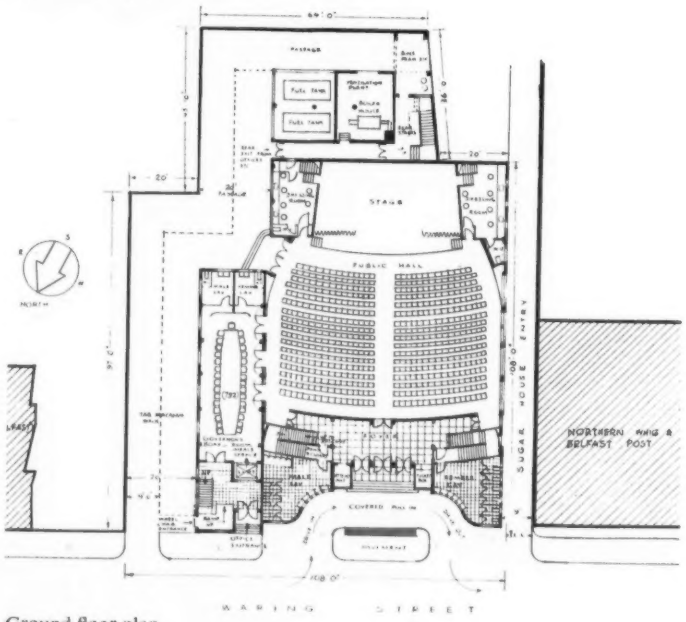


Long section

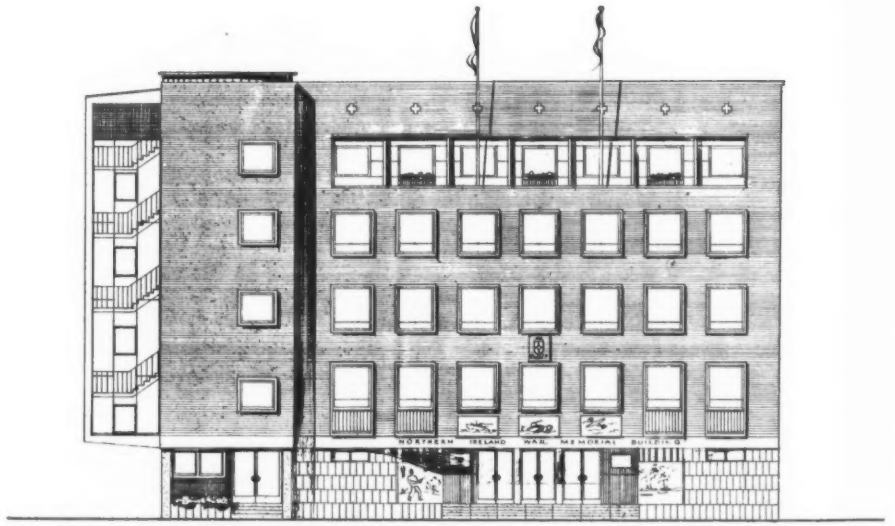


Cross section

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Ground floor plan



Elevation to Waring Street

Only about 80 architects attended this year's AGM of the RIBA at 66, Portland Place on May 7, in marked contrast to the hundreds who filled the hall two years ago when the same subject—the status of salaried architects—formed the main topic for discussion. As the President, Kenneth Cross, is abroad, Leonard G. Howitt, vice-president, took the chair and proposed that the report of the RIBA Council and Committees for the year 1956-57 be received. This resolution was duly carried. Below are extracts from the discussion which preceded the voting.

RIBA's 119th ANNUAL GENERAL MEETING

ARE MEMBERS LOSING PATIENCE?

Salaried and Official Architects Committee

THURSTON WILLIAMS: I should like to make a few comments on the report of the Salaried and Official Architects Committee, because I think it raises certain questions which this meeting ought to consider. It is two years since we held the memorable Annual General Meeting which discussed this subject. Looking round tonight, it might be thought that the feelings aroused by this topic had died away, but that is not my feeling nor that of the colleagues with whom I work. The average member can gain an idea of what the Institute is doing only from the reports which appear from time to time, and it is therefore natural that he should notice certain negative aspects of the work which has been carried out during the last two years. It is on that negative side that I wish to speak.

The assistant in private practice must be disappointed that, so far as he knows, no action has been taken to take his particular interests immediately into consideration. I feel that there is a very strong case for the Council to set up some form of Whitley machinery whereby the assistant in private practice can be directly represented across the table in dealing with principals and employers generally. There is also a strong case for the Council initiating some form of pension scheme for assistants in private practice. Those of us who work in local government or for other public authorities are committed to some form of superannuation scheme, and it is difficult after a period of time, when your salary has been bound up with a superannuation scheme, to change your form of employment and go into private practice as an assistant, because you immediately lose all the benefits of the superannuation scheme. If we want the maximum degree of manœuvrability for architects between private and official practice, some form of pension scheme for those in private practice seems essential.

A second cause for disappointment is that no action has been taken to clarify the position of the trades unions representing architects. There have been, I know, interviews between the Salaried and Official Architects Committee and different unions, but they do not seem to have come to anything. I feel that in this field there is a great deal more that could be done.

Above all, the salaried assistant is conscious that in these last two years his salary, if it has not remained as it was before, has if anything deteriorated. I think it can be said that the salaries of our assistant members are a scandal to the profession. At the present time our colleagues in the medical profession are carrying on a public campaign because they believe that their salary of £2,000 is not sufficient. It seems to me that we are lagging behind when the average salaried architect has a salary of only half the amount which his medical colleague receives. I do not believe that the average doctor is more important or efficient or beneficial to the community than the average architect.

Mr. Campbell, in a recent address to the Association of Building Technicians, gave it as his view that the target for the average architect should be that £2,000 a year from which the doctor is now trying so hard to get away. I should like to put a direct question to the Council and its Committees: is that an objective which they would consider it possible to support? I think that this is important. We should decide what our objective is for our members, and state it and work towards it.

There are other matters on which I think that the Council can take action in the coming year. I should like to see a clear definition of the difference in duties between the *ad hoc* Committee and the Salaried and Official Architects Committee. Their duties seem to overlap. They could, by working more closely together, carry out more work. I should like to know why on the Salaried and Official Architects Committee only one trade union is represented. Surely this should be one of the means of bringing together the interests of our members in the various trades unions within one organization, under the chairmanship and leadership of the Royal Institute?

I am not happy about the ways in which our members on these Committees are chosen. They are clearly hard-working and worthy people, but I always prefer election to selection. It is difficult to have complete confidence in members whom one does not know.

The CHAIRMAN: I am Chairman of the Salaried and Official Architects Committee, but I think that most of the questions which have been raised are for Mr. Sheppard, as Chairman of the *ad hoc* Committee, to deal with. There are one or two, however, which concern my Committee.

The first deals with the trades unions. We have, of course, had meetings with them, and we have agreed to continue the active co-operation which we have always had. When they want further information the provision of it is one of the jobs of the *ad hoc* Committee.

A salary of £2,000 a year is not the objective of the RIBA but of another body. It has never been before the RIBA Council, and the first thing that the Council would want to know is whether or not it is an economically practicable objective.

The clarification of the duties of the two Committees is under active consideration, and I expect a decision will be made shortly. I will ask Mr. Richard Sheppard, the Chairman of the *ad hoc* Committee, to deal with the other points.

RICHARD SHEPPARD: Mr. Thurston Williams picked out two things in particular, the first being the position of the assistant in private practice. We have had the appointment of Mr. Ricketts, and an addition is shortly to be made to the staff, to enable us to deal with the points which Mr. Thurston Williams mentioned and others, but we cannot tackle them all at once.

For the last year we have been dealing with what we regard as the nodal point, the salaries and conditions of assistants in public offices of anything from five to 15 years experience. We felt, from the information which we have gathered from visiting various offices and in other ways, that this was one of the matters on which we could most easily obtain information and be able to help, by that information, to improve the situation. It is said that we ought to deal with assistants in private practice. I think that we should; but we have been working for a year and we still have not been able to get as far as we wished on this question of qualified assistants with from five to 15 years' experience. I do not think that we shall do any good by striking out in all directions and taking in people in private practice as well. Mr. Williams made several assertions which I do not think are justified. We know from our own investigations of the discontent and very justifiable dissatisfaction which exists with the conditions of assistants in public authorities. We do not know of the existence of tremendous dissatisfaction with conditions in private practice; in spite of requests for information and the knowledge that the Committee exists, we have had no evidence on that subject whatever. For the moment, we shall do well not to disperse our efforts.

I agree with what Mr. Williams said about superannuation and pensions. This is an investigation which we ought to carry out, to see whether or not some sort of joint pension scheme could be worked out for those in salaried positions in public and private practice. Such an investigation would require an economist-statistician to carry it out, and also the help of an actuary. It is obviously a very large subject indeed. He also spoke about salaries generally and asked whether or not a salary of £2,000 was our objective. The answer is that we have no information in the Institute about the financial conditions of private practice. We are issuing a questionnaire to all members of the Institute to try to find out some of the basic conditions of practice. We do not know enough to say what sort of salary in relation to what sort of experience would be feasible for private practice. It is, I think, erroneous and misleading to establish a parellel between us and the doctors, because the doctors are very largely in a public service.

He referred to the representation of the unions. We made a general recommendation about that in our first report, which was taken up by the Salaried and Official Architects Committee. It is, as he knows, a difficult and thorny problem. I do not think that any of us can claim to be sure, in the present state of our knowledge, that by recommending the Institute to organize some sort of union we should do ourselves any good, in the face of the embattled strength of NALGO, the IPCS and other unions. We have to tread very carefully. With the staff at our disposal and the pressure on our members, you cannot expect things to move more quickly. It will probably take two or three years before we get any results from the investigations which we are carrying out and can make positive recommendations.

The CHAIRMAN: It should be added that the Salaried and Official Architects Committee remains in being and is dealing with the day-to-day matters, so that nothing is being neglected.

G. B. ODDIE: On the question of the *ad hoc* Committee, I move in different circles from Mr. Thurston Williams, but there is one point which he made which I would emphasize from my own observation in the

circles in which I move, and that is that the feeling of unrest, which was expressed so forcibly two years ago, is still there, and it will not be for much longer that patience will be extended to the R.I.B.A. That is about the extent of my agreement with Mr. Thurston Williams. It should be added very forcibly that those who have followed these proceedings are extremely grateful for the hard work which has been put in by the members of these two Committees. They have done an enormous amount of work in their spare time, and, whether selected or elected, I cannot imagine that we could have a more crackerjack bunch of chaps. This makes me wonder whether, as it was two years ago that the rumpus took place and only five months ago that Mr. Ricketts was appointed, the *ad hoc* Committee has really had the full backing of the Council of the Institute which we might have expected after the meeting two years ago. I should be glad to have the assurance that it has the full backing of the Council, and that that will continue.

RICHARD SHEPPARD: We have had the Council solidly behind us, thanks to the views expressed by members at these AGMs.

HUGH MORRIS (A): I wish to underline Mr. Oddie's remarks about the urgency of this question. I qualified seven years ago, and after two years' National Service started off on a salary which I need not mention and which has gone up step by step over the last five years. If I did not look at the cost of living index I might think that I was making progress, but taking account of the increased cost of living I find that I am now getting almost exactly what I received when I qualified.

With regard to the Liaison Panel, I do not know what came out of the meetings with the various negotiating bodies which have architects in membership. Probably it was very useful, but it might be worth investigating the possibility of this Institute not only calling together the representatives of these organizations (who in the case of NALGO, for example, are probably not architects) but convening meetings of members of the Institute who are also members of these negotiating bodies and trades unions, not union by union but by fields of employment—local government, Civil Service, private practice and so on. I think that this would lead to useful discussion; people with common problems would come together and see how those problems presented themselves in different places. Out of that might come something useful to the secretariat, the Salaried and Official Architects Committee and the *ad hoc* Committee.

We have seen the formidable programme of investigation of the *ad hoc* Committee. I am sure that it is valuable and I do not wish to disparage it, but I do not think it will solve the problem of discovering what we are worth. I do not think that that is ascertainable; I believe that what determines what you get is not simply what you are worth in any way that can be analysed as a result of the sort of investigation which is being conducted. We have to find some way to strengthen our negotiating power, and this is the core of the problem, rather than a tremendous piece of statistics.

RICHARD SHEPPARD: We are not the only people who feel that the cost of living is rising more quickly than our salaries. That problem faces all professional people today; from the little investigation which we have been able to do, it is evident that it applies to lawyers, engineers and all the others. My personal opinion—having been on this Committee for about two years now, and getting sick of it—is that, in this age of pressure groups, the only kind of pressure group which will help is one composed of almost all the professions and not just one of them. The views of 18,000 architects will not weigh heavily when there are parallel professions—surveyors, engineers, and so on—who think that they can carry out the work which we do. If in the *ad hoc* Committee we could start something going by all the professions which would exert pressure at the national level we might get somewhere. I should like this to be looked into, because it seems to me the only practical way of getting what we want.

K. ALLERTON: I am an architect in local government in the Midlands, and it is my experience that this *ad hoc* committee and the work that it is doing and the report which it has published have lit a spark, and that more interest is being taken in this than in anything which has come up for a long time. We find that groups of architects at all levels are meeting and discussing these matters. In view of this, it is felt that the work of this committee is so important that, while it should not be rushed, any additional assistance which can be given to it to enable it to do its work faster than is possible at the moment would be welcome.

S. A. W. JOHNSON-MARSHALL: I am a member of the *ad hoc* committee, and I should like to refer to a point made by Mr. Morris and touched on by implication by the last speaker. Statistics are not being gathered to achieve ends in themselves but to give us a starting-point from which to do some work. Mr. Thurston Williams, for instance, suggested that the average salary of architects was about £1,000 a year. Unless we know that, we cannot go into battle. We do not know that. We do not know the number of firms of any given size. We do not know the total number of architects who work in local authorities. The basis from which we have to shoot, when the time comes to shoot, is very shaky and will remain so until we have the replies to the questionnaire. It is therefore most important for all those who are interested in this subject to make sure that everything is done to get members to fill in this questionnaire.

G. GRENFELL BAINES: I too am a member of the *ad hoc* committee and an enthusiastic amateur statistician. I should like to deal with Mr. Thurston Williams's point of the salary of £2,000 a year. We run an office which has the avowed intention of sharing its income as fairly as possible between the qualified members of the profession, and we have for two years run a costing section to see how much we can share between ourselves. We find that to guarantee a salary of £1,000 for the qualified architects, from the youngest graduate to the most experienced, we need an output of £40,000 of new building work a year (presumably per architect—Eds.). Our overheads, if we worked twice as hard and earned twice as much, would be somewhat reduced, but do those people who want £2,000 a year produce £60,000 to £80,000 of new building? If we have 13,000 Associates, it will mean producing about £1,000,000,000 of new work a year, which is two-thirds of the output of the whole industry. Are we handling two-thirds of the output of the whole industry? That is one of the things that we have to find out. I have gone into these figures to show how difficult it is to speak with any certainty or to bring this wishful thinking on to the two feet of reality without a good deal of full-time work.

On pensions we have had a good deal of experience. We have run a group pension scheme in some eight offices for ten years. The interest in that scheme has fluctuated amazingly, from tremendous interest at the start to no interest at all three or four years ago. Men were finding it helpful when they wanted to go, because they took out what they had put in and what we had put in, and it meant £200-£300 to help them on their way to the next job. In the last three years there has been a revival of interest and more people are now joining, but we have no evidence of a burning enthusiasm for pension schemes in our own office.

There is much to be said for thinking of ways and means by which pensions can be linked with local authority schemes, but, having consulted actuaries, we find that the conditions of local authority schemes are so different from anything that the private architect can get from an insurance company as to make them impossible of reconciliation. The most hopeful thing to do would be to persuade the Government to "freeze" pension rates for three years, as is done when people go to the Colonies, so that a man can do three years in a private practice and then come back if he wants to and pick up his pension again.

£2,000 a year and pension schemes are pretty much Pie in the Sky, but if we carry on for another two or three years the profession may be strong enough to stand up and say what it ought to have. On the present output of the building industry it will mean more like 10 than 6 per cent. for fees.

Architects Registration Council of the U.K.

C. B. THOMPSON: It is stated in the last paragraph that there are 18,892 persons on the register. The numbers seem to be becoming excessive from the point of view of the absorption of architects in this country. In the last ten years we have doubled the number and have also doubled the number of Students on the list. Has any forecast been made of how many architects are necessary before we become saturated? It is obvious that all these architects cannot become principals but must remain assistants. Will this fact cause headaches in five or ten years' time? We are becoming an overloaded body in some ways.

THOMAS E. SCOTT: I am not rash enough to forecast what the position will be in five or ten years' time. Towards the end of the war we produced a report, at the request of the Ministry of Labour, in which we tried to anticipate the needs of the architectural profession in the post-war years. We felt that the output of the schools and the input through the RIBA examinations would satisfy the needs of the profession. I have no real fear that the rate of recruitment to the profession in the next four or five years is going to exceed the loss through what we commonly call natural causes. I believe that from an actuarial point of view the expectation of life of an architect after qualification is about 35 years. If you divide the number on the register by 35 and compare the number so obtained with the number entering the profession you will find that the profession is not likely to be seriously overcrowded. In any case, the proof of the pudding is in the eating. Many of my friends in the profession have told me that they cannot get staff when they want them.

C. B. THOMPSON: Will these young architects who will be employed as assistants obtain sufficient experience and opportunity to better themselves or have to remain as assistants for very many years? If you increase the numbers of young architects you decrease their opportunities. An earlier speaker remarked that he was only able to keep pace with the rising cost of living. Assistant architects are cheap, and by increasing the number we are not improving the position. That was the point of my question. Are we producing cheap labour when some of the work could be done by a subsidiary profession such as draughtsmen? Are all these people architects in the real sense?

CHOOSE YOUR LEADERS

Once again we give space to those nominated for election to the RIBA Council to express their views on the issues which they think the Council ought to do something about. Of those whose names are not printed, a few declined our invitation for various reasons (they were busy, or out of the country or they had nothing to add to previous statements), but most were those privately nominated who, presumably had not enough time to prepare statements before this issue went to Press. Further statements by privately-nominated members will be published next week.

REPLIES FROM FELLOWS

Nominated: HUBERT BENNETT, PETER DUNHAM, R. GARDNER-MEDWIN, DOUGLAS JONES, BASIL SPENCE, C. G. STILLMAN, BRIAN WESTWOOD

HUBERT BENNETT writes: The RIBA and the architectural profession should use every available means to increase its status and enlarge its activities both at home and throughout the Commonwealth.

The opportunities before us are beyond counting and with the qualities shown in the work of our members today the aim must be more and better architecture. I am conviced that there is no more important selling point for the profession. With every opportunity that arises we should see that we play our part to the full. All around us we see the lack of town planning in its real sense, planning carried out without the co-ordination of the various professions necessary to achieve quality. Without the architect we are never going to have fine building or planning.

PETER DUNHAM writes: There is one fundamental problem that has faced the profession for years—how to increase the amount of building work designed by architects. The continuing ruination of the countryside and increase in number of architects make it more than ever pressing. The RIBA are, of course, fully conscious of the problem, but there are three particular courses I think that should be taken.

1. A vigorous campaign to convert the private developer to use the services of an architect. The Institute have several proposals in hand, with which as a committee member I am associated, and which with others I am sure would achieve considerable success if pressed with adequate and convincing publicity.

2. Further steps to increase efficiency of service we provide as architects. In addition to support to outside bodies the Institute should initiate, together with the allied societies, instructive functions to improve this efficiency. Pressure should also be applied to the architectural schools to extend instruction on this subject.

3. And finally the matter of fees, which is closely connected with 2. I think it is admitted that the return from a large repetitive job is handsomely high, whereas from some jobs, such as housing, it is notoriously unremunerative. I would suggest an enquiry should be made to obtain facts on which a more realistic scale could be based. The architect must provide value for money or the building owner will look elsewhere.

R. GARDNER-MEDWIN writes: In recent years I believe that the Council has been facing up bravely to many important issues, and I have great faith in the present investigation into the "structure of the profession," the results of which should help us plan a more effective campaign on several fronts.

One of these fronts is *town planning*, where we ought to exert a much greater influence. Over most of the country, town planning is in a bad way because most of those who run it seem to have lost their sense of the possible and to be more interested in land use control than in creative planning. It is important for the country that we should demonstrate, with one clear voice, the vital part we can play in all town and country planning problems in which civic design is involved.

In education, I believe that our main objectives are twofold: first, to see to it that, in a world of science, progress in education leads to high achievement in creative design by way of a more scientific approach—in undergraduate teaching and in post-graduate studies; and secondly, to make our policy help not only ourselves but our friends in the developing territories of the Commonwealth, where education for architecture and building presents problems which are special and urgent.

DOUGLAS JONES writes: Architecture continues to move into the field of mechanical and industrial processes. As a result building is carried out more and more by industrial firms.

The problem for the RIBA to decide is how to provide technical services most efficiently so that the architectural values which we respect may be retained and so that the salaries paid *and* earned may be commensurate with commercial earnings.

The efficiency of the profession no doubt has its beginning in training. We must train first-class technicians, not simply mechanics, but men genuinely interested in industrial processes who have acquired a scientific outlook.

BASIL SPENCE writes: I would say one of the most important tasks the RIBA has to tackle is the strengthening of ties with our brother architects of the Commonwealth out of which the whole question of the standard of architectural training emerges.

Secondly, to push forward the work of the *ad hoc* committee under the chairmanship of Richard Sheppard—though this committee has been working very hard, results can only be got by the full co-operation of every member of the RIBA.

Thirdly, to push the architect's case in the public relations field. Never before has there been such architectural opportunity and the public must realize the importance of good design.

C. G. STILLMAN writes: There is increasing evidence of the RIBA's expanding responsibilities, and first and foremost the council needs men of calibre and experience. The high prestige of the Royal Institute must be maintained, but to the purely academic and social functions must be added more than ever business management and efficiency.

Membership of the council is still deficient in architects employed by official bodies, and stronger representation would add greater unity and much-needed co-ordination of practice.

In particular, more local government architects—county and municipal—are needed on the council.

BRIAN WESTWOOD writes: I think that the fundamental weakness of the status of the architect in this country is his failure to establish himself (as he seems to have done in some other countries) as an *indispensable* member of the community. The present emphasis, therefore, should be on Public Relations.

To give point to the architect's case, the

whole matter of distribution of work needs re-examination. Since the war, we have been obliged to accept disappointment after disappointment in the rebuilding on major sites. As an example, is it not literally appalling that among the host of new buildings in the City of London, visiting architects can find *nothing* of interest, either from the architectural or engineering point of view?

Ways must be found to enable our Institute to have a stronger voice in the selection of architects for work which is nationally important. If that can be achieved, the next hurdle is to see that work is distributed widely in the profession, so as to ensure that the architects concerned can give their own personal attention to such work.

As a parallel approach towards the same end—better buildings—the interest already shown in joint education of builders and architects should be energetically pursued. Finally, I think it is important that the RIBA should give a bolder lead on matters of design and professional organization which can be taken up by the local societies that look to it for guidance. It must accept the inevitable criticism which is bound to arise from a positive attitude on controversial matters.

REPLIES FROM ASSOCIATES

Nominated: D. E. E. GIBSON, PERCY JOHNSON-MARSHALL, STIRRAT JOHNSON-MARSHALL, ANTHONY PITT

D. E. E. GIBSON writes: If I should be elected as a member of the RIBA Council it would be my wish to encourage the Council in the programme of work to which it has set its hand during the previous session. It seems to me that during the last year or so, the Council has taken a number of steps, which, with the necessary appointments to its headquarters staff, could result in far-reaching changes in the attitude of the RIBA to problems which face the profession today. One of the matters which requires attention is the need for architects to be given opportunities to work with building and civil engineering contractors, as engineers can, and to recover for the profession, many commissions which at present no architect gets a smell at. This is one of those things which may emerge as a result of the survey which the RIBA is to carry out.

P. JOHNSON-MARSHALL writes: In order to bring the profession to a state where it can tackle the architectural problems of the 20th century in a 20th century manner, it is essential that the new developments which are taking place in the RIBA should be pressed forward with continued energy and enthusiasm.

Although the Institute has many complicated tasks to perform on behalf of its members, a few major objectives may be mentioned:

(*a*) We need to create a situation in which architects achieve parity of status, recognition, and remuneration, with a profession such as medicine. This means following up rigorously the work so well commenced by the *ad hoc* committee on representation.

(*b*) We need to ensure that we are really well served with technical information about all aspects of our work. In London, where most of the sources are available, it is difficult enough to keep up to date, but in the smaller cities and towns of Britain where so many of our members work, it is almost impossible. This is all the more reason for developing a really efficient information service through the RIBA JOURNAL, through records of conferences, symposia, and other means.

(*c*) We should be pressing continuously for every building to be designed by an architect, and for every Local Authority to have its own architect.

During my current term as an elected Associate Member of the Council, I have endeavoured always to represent the best interests of the whole profession. If elected I will, of course, continue to have this as a prime objective.

STIRRAT JOHNSON-MARSHALL writes: The aim of the RIBA is ubiquity of good architecture.

In default of it we have increasing Subtopia and dissatisfaction amongst too many of our members.

To achieve it, the ability of architects must be increased and their usefulness and authority more widely recognized. The rate at which this can be done will depend directly on the profession's ability to demonstrate its achievements. Before it can do this effectively it must know more about itself and its work (we neither know how much work we do, nor how much money we earn).

The RIBA has now set up a small unit whose exclusive task is to provide the information which will enable its representatives to speak with authority on such subjects as responsibility and pay, the statutory appointment of the architect, or architecture as a fine art. The new unit needs all the help and encouragement we can give it.

ANTHONY PITT writes: The main job before the RIBA, as I see it, is to forward the evolution of the profession to match the changed conditions in which it is working. This task can be split into two parts for convenience. The profession must scrutinize its internal structure and methods; and it must look at itself in relation to the building industry as a whole and against the social and economical background in which it exists. The *ad hoc* committee on salaried employment and the structure of the profession has made an effecive start on the first part: the second should be tackled with equal energy and determination if architects are to justify their claim to leadership within the building industry. Only by regaining and exercising this leadership can we hope to provide the conditions in which architecture may flourish to the benefit of the nation as well as of architects.

On a different plane, I should like to see improved methods of intercommunication within the profession. For example, the RIBA might extend the excellent symposia which it has organized into short refresher courses or working conferences on specific technical or organizational topics designed to keep the busy architect abreast of current developments.

REPLIES FROM LICENTIATES

Nominated : GWYN M. MORRIS

One of the most important tasks of the RIBA is to press for full recognition of architects and to ensure that all building projects are undertaken by architects. Although it may be a long and hard task as a first step, the statutory appointment of architects to local authorities must be secured and the extension of the Registration Act to prevent other than architects preparing and submitting building proposals.

The Salaried and Official Architects' Committee and the *ad hoc* Committee are doing a great amount of work. Unfortunately the RIBA is not in possession of statistics necessary to proceed on to the next sphere of action, and with the members' support these facts are now being sought. It will be my interest to speed the implementation of this work and if possible the frequent publication of the progress being made.

In this article A. F. Ewing, chief of the Steel, Engineering and Housing Section of the ECE, outlines the history of the Housing Section.

INTERNATIONAL CO-OPERATION ON HOUSE DESIGN

The Work of the ECE Housing Committee

The Housing Committee of the United Nations Economic Commission for Europe has had a relatively long life and has changed its name more than once. It started life as part of the Emergency Committee for Europe in the summer of 1946 in Brussels and became part of the Economic Commission for Europe when this was set up in the following year. A critical assessment of its achievements, weaknesses and future potentialities should start from a realistic appraisal of the forms of international co-operation in the housing and building field which are possible. There is one obvious difference compared with other activities where international co-operation flourishes: the virtual absence of trade in houses and the comparatively limited, perhaps too limited, trade in building materials and components. Furthermore, differences in geographical and social conditions limit the validity of international comparisons in ways which would not arise in other fields. On the other side of the account, housing although it may give rise to acute political controversy at the national level, is relatively non-political from an international point of view. The most obvious form of co-operation is exchange of information; whether the information exchanged is highly technical in character or there is an exchange of views between officials on aspects of housing policy the principle is the same. Secondly, through joint efforts new knowledge can be created and this is particularly desirable with a problem of such magnitude as housing. There are several different ways of doing this, from the undertaking of a piece of research work jointly by two or more institutes, to the preparation of analytical reports on both technical and economic problems. Thirdly, in the face of what is a grave social problem which is sometimes neglected or tackled with insufficient energy, an international body can reinforce the efforts and strengthen the hand of those responsible at the national level. Fourthly, many countries are underdeveloped from a housing point of view and it is possible for those more fortunately placed to assist the others, sometimes at comparatively little cost and without running up against the difficulties that arise in other fields through the encouragement of competing industries.

Although the history of the Housing Committee does not fall into rigid compartments, three broad phases of activity can be distinguished. The first began with the Brussels meeting in the summer of 1946 and culminated in 1949. During this period Mr. Robert Fitzmaurice, then Deputy Chief Scientific Advisor of the Ministry of Works, was Chairman of the Committee throughout most of the time. There were three main activities. First, the Committee successfully highlighted the tremendous housing needs arising from war destruction, the cessation of housing activity during the war, a frequently bad pre-war inheritance and current demographic needs. The Committee's aim was in effect to draw the attention of Governments and ultimately public opinion to the seriousness of the problem, particularly at a time when in the competing claims for investment resources housing was inevitably given a low share. The results of the Committee's enquiries were subsequently published by the ECE Secretariat*. For the countries covered by the enquiry it was assumed that the pre-war rate of house construction might on the average be doubled. Even so, it was shown that in the aggregate it would take some twenty years to meet housing needs. For particular countries the estimates naturally varied greatly, from six years in the case of Sweden to 150 years in the case of Greece. Secondly, the Committee, in parallel with the activities of other EECE and subsequently ECE Committees, was concerned to promote the restoration of production of building materials, which had fallen to a low level, and to exchange information about economies in the use of building materials. The other principal factor limiting the restoration of the capacity of the building industry was of course labour, and particularly skilled labour, but this, directly at least, was outside the competence of the Committee. Thirdly, the Committee devoted much effort to restoring and developing further contacts between technicians. These contacts had been broken by the war and in any case had never been as close in the building field as in most other economic sectors.

It was in this early period that what may be called the philosophy of the Committee was established in a number of decisions taken in 1949. One was on the importance of promoting the industrialization of house building. Another was on the need to establish national organizations for building research in each country, which subsequently had a considerable practical effect. A third was on the desirability of collecting and publishing statistics, which although it did not bear fruit until some years later was the first step towards increasing the quantity and improving the quality of what was, at that time at least, a statistically backward field.

1 Technical Co-operation

The second phase of the Committee's activity was something of an interregnum covering the following two or three years. Two quite distinct strands of activity can be traced. One was to promote systematic arrangements for international technical co-operation, culminating in the formation in 1953 of the International Council for Building Research, Studies and Documentation (CIB). The first step was taken in 1950 with the setting up of the International Council for Building Documentation (CIDB) and indeed the preparatory work to this end had been going on throughout much of the first phase of the Committee's life. The purpose of this organization was to provide a link between national centres or committees for building documentation and to promote common principles with regard to terminology, classification and methods of arranging and presenting building documentation. Subsequently, the CIDB became in effect a section of the CIB. Much progress has in fact been made towards a uniform classification system, uniform terminology and uniform methods of abstracting. A start has been made in promoting what is frequently known as active documentation, the dissemination of technical literature in more popular form with a view to meeting the needs of the working architect and practical builder. Nevertheless, it still remains the case that a relatively limited number of national documentation centres are actively taking part in the system of international exchange established. The United Kingdom, for example, although it plays a leading part in the other activities of the CIB and at the moment supplies the President, Dr. Lea, Director of the Building Research Station, has not found it worth while, from a practical point of view, to take an active part in the documentation work. In many countries national documentation committees or centres, except where they are closely linked with the national building research organization, do not appear to enjoy a particularly secure position or to receive much support from the building industry. Indeed it is sometimes argued that the work on documentation is of more interest to librarians and specialist documentalists than to architects, technicians and builders. On the other hand, the increasing interest in active documentation seems to be a reflection of the desire to meet more fully the needs of the practical builder.

2 Preparatory Work

The preparatory work by the Housing Committee and the ECE Secretariat which led to the setting up of the CIB was much more complicated. This work was largely carried out by a limited number of members of the Committee who devoted much of their energy to it, of whom the most important was Mr. A. Marini, of France, at that time Director of the Centre Scientifique et Technique du Bâtiment and subsequently the first President of the CIB. Apart from taking over the work of the CIDB, the fundamental idea was to provide an effective link between the national building research organizations It was believed, and has subsequently been shown in practice, that in addition to each centre being more fully informed of the research plans, work in progress and achievements of others, time, money and staff resources can be saved by carrying out specific pieces of research on a joint basis with other interested national organizations. The third activity of the CIB has been to carry out the technical studies which were originally the responsibility of the Housing Committee. The CIB, as has been noted, was set up at a general assembly held in Geneva in the summer of 1953. Its original constitution was somewhat cumbersome but a considerable streamlining is now in progress. Furthermore, in its early days it was essentially a Western European organization, but institutions from almost all the Eastern European countries have recently joined. It can now be said that the Housing Committee's child is now fully on its feet.

The other strand in this second phase of the Housing Committee's activity was to seek a way towards inter-Governmental co-operation in the sphere of housing policy, and in particular its economic aspects. This was a counterpart of a deliberate attempt to pass the purely or mainly technical activities of the Committee to the CIB, since it was felt that neither the composition of the Government delegations nor of the Secretariat was such as to be able to deal effectively with highly technical matters. The first steps in this direction were of a somewhat halting character and indeed the years 1951 and 1952 were something of a transition period. Two pieces of work initiated and largely carried out in the earlier period were completed. One was an attempt to compare man-hours on building site in a number of countries, which can best be regarded perhaps as a gallant failure. The Committee and its Secretariat lacked the financial resources to carry out the comprehensive field investigations which were required. On the other hand, the conception underlying this enquiry bore fruit subsequently in an investigation carried out by the CIB on behalf of the European Coal and Steel Community which is still in progress and which is seeking to compare in a detailed fashion the cost of experimental houses erected at the expense of the High Authority in the six countries. Another important piece of work which was completed during this period was a comparative study on the utilization of space in current types of dwellings in fourteen European countries. This was the work of a rapporteur provided

**The European Housing Problem: A Preliminary Survey (E/ECE/110)*

by the then Ministry of Health, which has proved to be something of a best-seller. The work is now being taken up again on a more comprehensive basis.

From this time there has been a deliberate concentration of effort on a limited number of key issues in housing policy, particularly the financing of housing and rent policies, and more recently such questions as co-operative housing, slum clearance and housing management, discussed largely within the framework of annual surveys of European housing progress and policies. The Committee's first steps in the sphere of financing were taken largely as a result of efforts by a number of specialist rapporteurs, particularly Mr. Y. Salaün, of France, who was then an Inspector-General in the Ministère de la Reconstruction et du Logement, and Mr. A. Johansson, Director-General of the Swedish Royal Housing Board.* This was followed by a necessarily more controversial document prepared by the Secretariat on rent policies.† The difficulties to which rent control policies in the form carried out in most countries had given rise were analysed on the basis of the actual facts of the situation. At the same time, therefore, some of the extremer notions about the supposed evils of rent control in any shape or form were exploded. This paper gave rise to an extremely animated discussion in the October 1953 session of the Committee, and to a number of conclusions which, although general in character, were of some importance, particularly as evidence of the high degree of uniformity of opinion throughout Europe on the principles which should be followed. It was clearly recognized of course that rents in a number of countries had been frozen for too long at too low a level. At the same time it was not the Committee's view that rent control should be abolished, nor, for that matter, subsidies on housing, so long as there was a general shortage of houses.

Perhaps one of the most important points brought out both in the Secretariat's report and in the Committee's discussion was the recognition that rent policy should be considered to be, but rarely had been regarded as, an integral part of housing policy generally, closely related in particular to subsidy policy. This question and also other more detailed aspects of the financing of housing were analysed and discussed at a number of sessions of the Committee in subsequent years.‡ The culminating point of the Committee's work will be during the current year when, with the aid of several expert rapporteurs from both Eastern and Western European countries, a comprehensive effort is being made to bring all the work done on the financing of housing up to date, to deal with a number of specific questions which have not yet been tackled, and finally to arrive at systematic conclusions and, where appropriate, recommendations.

Following on the comparative failure of earlier efforts in quantitative terms, the Housing Committee's whole approach to building costs was changed at the beginning of this period, with a concentration of effort on the contribution which Governments can and do make, directly or indirectly, to reduce, or perhaps it would be better to say to limit the increase in building costs. The first comprehensive report was prepared for and discussed by the Committee at the end of 1952 and published in its final form the following year.* This was *inter alia* a study of efforts being made to promote and speed up the trend towards the industrialization of building. Work continued on a number of specific problems to which the report had drawn attention, both in the Housing Committee's Working Party on Cost of Building and in the CIB. A new attempt at a comprehensive synthesis is now being prepared and will be the main topic for discussion at the Committee's meeting at the end of this year.

To this period belongs the starting of serious work in the field of housing statistics. An expert Working Party was established and the first issue of the Quarterly Bulletin of Housing and Building Statistics for Europe was published in 1953. Subsequently steady progress has been made, with the Working Party playing an active part throughout, in arriving at common definitions which give greater precision and comparability to housing statistics, and in stimulating the quantity of statistics published.

3 Eastern Europe

During this period also, at the end of 1953, the Eastern European countries returned to the Committee and in the following year Mr. J. Gorynski, of Poland, then Director of the Administration centrale de la Construction des Villes (ZOR), who had participated in the early days, was elected Chairman, a post he has held ever since. About this time the detailed exchange of visits under the auspices of the Committee began, first on a modest scale in Switzerland and subsequently in France, Poland, Belgium and Holland. Study tours are also in prospect in Austria and Czechoslovakia. If the touristic aspects of these visits has never been entirely lost sight of, they have now developed to the point where a detailed and serious programme of study can be undertaken.

In 1954 a piece of work was initiated which in the long run may herald an entirely new phase of the Committee's activity. At the suggestion, in the first place, of Yugoslavia the Committee began for the first time to consider what might be done to assist the less industrialised countries of Europe in tackling their housing problems. After a preliminary survey, the Committee sent, in the spring of 1956, small expert missions to Yugoslavia and Turkey, at the invitation of the Governments of these two countries. The principal objective was to examine in detail with the authorities concerned what might be done by other countries, either within the framework of technical assistance activities or bilaterally, to help these countries. In addition, however, it transpired that the Governments of the two countries were only too willing to get advice on their national housing policies. This was not of course and could not have been in the time available an attempt to go into technical detail, but rather to focus attention on what appeared, in the eyes of a group of outside experts, to be the main weaknesses in housing policy. In Yugoslavia, for example, it was apparent that there was over-much pre-occupation with elaborate mechanisation and advanced forms of prefabrication of a kind which had made little or no progress in any country. In Turkey, there was an almost complete absence of a social housing policy of a kind pursued in one form or another in almost every other European country. Subsequently, in both Yugoslavia and Turkey there have been encouraging signs of measures being taken to follow up the recommendations made. It would seem that there is further scope for activity of this kind within the framework of the Committee and that, as already pointed out, quite a number of European countries might be regarded as "less industrialised" from the housing point of view.

It remains in the light of this brief survey of the Committee's many and varied activities to attempt to assess what has been accomplished or to suggest where renewed efforts would seem to be necessary. The background is naturally the continued need in most countries for house construction on a large scale. Recently a new and much more comprehensive assessment of the European housing situation was made under the auspices of the Committee and this brought out clearly that despite the high level of house construction in recent years, reaching post-war peaks in 1954 and 1955, a continuation of house building at the same levels for another ten years would be by no means excessive. In some countries a continuation at this level would at most mean a very slow improvement of the situation and would be perhaps not even sufficient to prevent some net deterioration.* The principal achievement of the Committee has probably been to create a rational instrument for systematic technical co-operation in the CIB, particularly now that this is virtually all-European in character. At the level of exchange of information, however, there would still seem to be more that might be done. There still appears to be a lack of systematic, comprehensive and up to date information disseminated throughout Europe concerning the contents of the many technical and scientific journals published. Moreover, even when the contents are known there are frequently language difficulties and also to some extent foreign exchange difficulties. It may be that the CIB Documentation Section's abstract service could be supplemented by the preparation of regular bibliographies. There would also appear to be some advantage in attempting to develop the diffusion of selected abstracts from a central point.

4 Information Service

Finally, much more could be done to promote the flow of technical information to the practical builder. One example of this is the Technical Information Service maintained by the Ministry of Works in the United Kingdom; somewhat similar arrangements are in force in the USSR, supplemented by a permanent exhibition in Moscow showing modern techniques of building, and another demonstrating mechanical plant. Some of these points might be considered by the Committee and others by the CIB. The Committee's contribution both to the exchange of information on and to the comparative analysis of housing policies has been considerable, particularly on such problems as financing and rent policies. Its biggest failure so far is that it has made very little impact on the cost of building and it would seem that much more intensive efforts are required to find out the practical difficulties in different countries and how they can be overcome, and so to speed the process of industrialization of building and the reduction of real costs. In this respect all European countries are concerned, all have something to learn and most a good deal to teach. The success of efforts of this kind must inevitably increase the demand for mechanical equipment of many different kinds, for building materials and for finishing components. The shortage of most of these items is a definite limiting factor in the efforts of most of the Southern and Eastern European countries to increase levels of house construction. There should be scope for common efforts to increase output, perhaps for a greater degree of international specialization and, as a result, a high level of trade. The Committee's role as the keeper of Europe's social conscience in the realm of housing has been not ineffective. However, despite generous treatment by the technical Press in some countries, more might be done to publicize the Committee's efforts. Finally, the Committee's role in the sphere of practical mutual aid and in particular in promoting more aid from the "haves" to the "have-nots" is still in its infancy. If the principle of *noblesse oblige* is remembered, much more can be done.

* See *Methods and Techniques of Financing Housing in Europe* (E/ECE/IM/HOU/38), Geneva, March 1952.

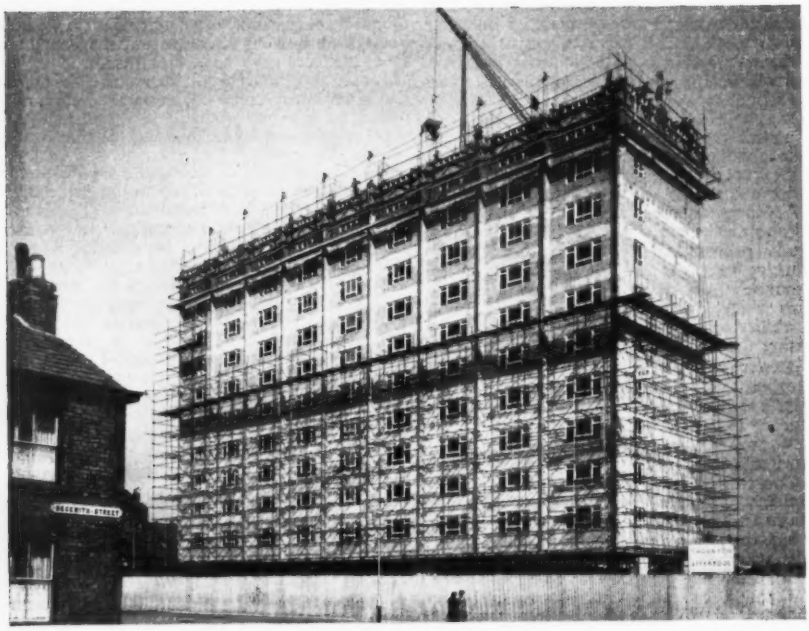
† *European Rent Policies* (E/ECE/170), Geneva, August, 1953.

‡ See in particular *European Housing Progress and Policies*, 1953 (E/ECE/189), chapters on financial techniques and financial charges; *European Housing Developments and Policies in* 1954 (E/ECE/209), chapter on subsidy policy; *European Housing Progress and Policies in* 1955 (E/ECE/259), chapters on the private financing of housing and on cooperative housing in relation to Government policy.

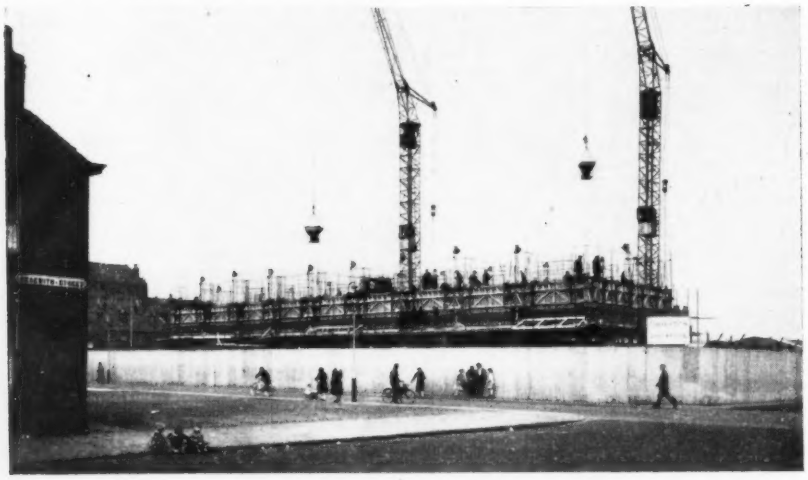
* *Cost of House Construction* (E/ECE/165), Geneva, May 1953.

* *The European Housing Situation* (E/ECE/221), Geneva, January 1956

ELEVEN STOREYS IN EIGHTEEN DAYS



These two photographs of an 11*-storey block of flats now being constructed for Birkenhead Corporation at Eldon Street, Birkenhead, were taken on April* 10 *and April* 28. *Each block is divided into three sections separated by access towers containing passenger lift and staircase. The ground floor contains stores, laundries, and play spaces. All dwellings are situated between first floor and tenth floor. Foundations are r.c. piles supporting* in situ *r.c. columns to first floor and* in situ *r.c. first floor slab. From the first floor slab upwards, external and party walls are* in situ *r.c. load-bearing construction,* 7*-in. thick. Living room floors are of precast pre-stressed filler joists, and intermediate maisonette floors of traditional timber joists in pre-formed sections on pre-stressed r.c. beams. The load-bearing walls are constructed with the "Prometo" system of jack-operated climbing shuttering with windows inserted as walls rise. The shuttering and staging are combined and rise one inch every four minutes. Section No.* 1 *consisting of* 40 *maisonettes commenced on April* 10. *The first "slide" from first floor slab to second floor level was completed on that day. The tenth and last "slide" took place on April* 28 *and the roof units were fixed on the* 29*th. The scheme was designed by T. A. Brittain, Borough Architect, in collaboration with Donald Bradshaw, consultant architect to the contractors, Wm. Thornton and Sons Ltd. Ove Arup and Partners were the consulting engineers.*



MANCHESTER OVERSPILL

A Lamentable State of Affairs

Paul Brenikov reports a recent conference on "dispersal in the Manchester region"; he urges the need for a new town and a regional authority to end a "disastrous stalemate."

The north-west lived up to its reputation as the "awkward corner" of the country so far as planning is concerned, at the recent one-day conference at Manchester sponsored by the TCPA, where delegates from more than 200 local authorities and other interested bodies were invited to discuss "Dispersal in the Manchester Region"—a problem which has remained controversial for the past ten years and still seems no nearer a solution. In essence the problem is where and how to distribute the "overspill" from the old congested parts of the conurbation in an area where land for development has been at a premium for some considerable time.

The numbers involved are very large—it is estimated that something like 250,000 persons may eventually have to be displaced—and the need to replace sub-standard dwellings is now very urgent. Some of the worst slum districts in the country are in Manchester and Salford.

The position, so far as the "exporting" county boroughs are concerned, is rapidly becoming desperate. They have almost no spare building land left within their boundaries and an enormous backlog of slum dwellings to demolish and replace. In Manchester, for example, it appears that one quarter of the population lives in 62,000 "unfit" dwellings, of which 22,000 are over 100 years old. Demolition and decay are reducing these by about 800 a year and the city hoped to replace them by building about 2,600 new dwellings a year, but because of the acute shortage of land they find that they are only able to complete about half that number. Manchester's case is a particularly bad one, but it is typical of the dilemma that is facing the older industrial cities all over the country.

Slum clearance on this scale involves technical and human problems of such complexity that nothing less than planned dispersal on a regional basis can hope to provide an answer. This fact has been known for some time. It is also known—and agreed—that intelligent co-operation between local authorities is essential if anything concrete is to be done. Yet here agreement appears to end, for this vast and urgent problem has been nibbled at and argued over for the past ten years, while the slums still remain. The object of the conference was to review the problem and see what practical steps could be taken to get on with the job.

In his opening address Sir George Pepler reminded the delegates that in the past the local authorities in this area had been pioneers in the matter of co-operative planning on a regional scale. As long ago as 1920, 96 of them had joined together to form one of the first Joint Town Planning Advisory Committees, which through its executive committees had brought into being a number of well-conceived development plans. After the 1947 Act, which provided greater power than ever before for control

and regulation of land use, the whole atmosphere of co-operation had evaporated. After reviewing the evils of congestion—which he maintained lay at the root of most of the difficulties—and the advantages of planned dispersal as the logical way of overcoming them, Sir George urged the local authorities to sink their differences and act together as they had done in the past.

He was followed by M. J. Hellier, the President of the Town Planning Institute, who suggested that if, as a first stage, joint action could be secured at a technical level to determine the most practical overall solution, it might then be easier to work out the administrative and financial questions.

The subsequent discussion was devoted almost entirely to immediate difficulties rather than general principles. Representatives of exporting authorities, for example, emphasized the serious effects of higher rents and cost of travel on families moved to overspill estates and the difficulties of assimilating the new residents in the existing community. Alderman J. W. Bacon of Salford came out strongly in support of dispersal as the only proven remedy for congestion. His authority, in conjunction with Worsley and the Lancashire County Council, had been operating an overspill scheme since 1946. This experience had convinced him that in spite of the admitted snags—of which rents were one—these schemes could be made to work and work well.

The receiving authorities appeared less convinced of the value of this type of project—at any rate under the existing system. Macclesfield, which had been suggested as a suitable location for an intake of some 33,000 persons from Manchester, had broken off negotiations with the city: the representatives maintaining that unless suitable guarantees were forthcoming that industry as well as population would be transferred from Manchester they could not countenance such a scheme. Macclesfield, they said, had laid out an industrial estate of 175 acres, complete with roads and sewers, but so far Manchester had done nothing to bring industries out to it. They felt that some sort of compulsory industrial relocation was necessary if the expanded towns were to become relatively self-contained entities and not dormitory satellites of Manchester.

Town development

Alderman H. W. Throup of Nelson suggested that in north-east Lancashire there was a ready-made reception area for Manchester's overspill. The towns in the weaving area had been losing population for some time, but with Government support and co-operation between the authorities, both problems—overspill and decline—could be transformed without any need for new town construction. He urged the conference to press strongly for the application of the Town Development Act to these declining centres, coupled with a firm policy for the relocation of industry.

The main case for the overspilling authorities was put by Alderman R. E. Thomas from Manchester, who described the root cause of the whole problem as being the new standards in homes, schools and factories which were now regarded as essential for human welfare. The scale of the problem alone, he maintained, made it impossible for the parent authorities to find a solution within their own boundaries. In all, Manchester needed places for 80,000 new houses. Even if all the sites at present under discussion in Lancashire were taken up, by 1971 some 28,000 new sites would have to be found. Confronted by this need, some authorities, he declared, were turning their backs on the people in the Manchester slums and denying them the room to live. The solutions proposed—expanding existing towns and building on large new sites—involved difficulties which were beyond the city's control. There was now virtually no substantial area within 25 miles of Manchester served by a sewerage system with enough spare capacity to permit building on the scale required. Even when a compulsory purchase order was confirmed the city was unable to make progress because as developers they were dependent on the local authority for services. A few houses here and there were useless; what Manchester needed was a site for a new town which they could develop on their own with their own labour. They had already built one such at Wythenshawe. Lymm and Mobberley would both be needed as well as the overspill areas so far under review, and they intended to go on pressing for them—in spite of opposition.

Financial difficulties

The technician's view of the problem was given by Mr. U. A. Coates, County Planning Officer of Lancashire. His county, he said, had hoped to provide for some 160,000 persons from the Manchester area by 1971. This would necessitate the construction of some 2,000 houses each year—with associated commercial and industrial buildings as well as new schools and public services, during the 20-year period. In spite of impressive achievements at Middleton and Worsley the rate of construction was running at about one-half the speed required; 5,500 dwellings had in fact been erected instead of the 10,000 or so anticipated. After examining some of the practical difficulties which had been encountered when putting schemes into effect—the social problems of a rapidly-growing, "one-class" community; the conflicts arising from having separate policies for industrial dispersal and "green belt" control; the clumsiness and inadequacy of the existing administrative and financial arrangements—he put forward a "five-pronged" programme for future action based on experience so far. Firstly, he said, the central government must go further towards meeting the claims of the local authorities and take steps to revise its present policy on financial aid, particularly towards receiving authorities. Greater assistance in the critical early stages and firmer guarantees against long-term financial difficulties were urgently needed. Secondly, the overspilling authorities must be prepared to contribute more towards the initial costs of a scheme and increase both the number and the distance of the movements proposed. Since jobs were as important as homes, positive steps must be taken to encourage industry and commerce to move out to sites in the development areas. He thought the receiving authorities needed to change their attitude. They should look beyond the immediate difficulties to the long-term benefits—human, financial and civic—and welcome an overspill scheme as a valuable long-term investment. County councils, too, had an important part to play in encouraging and guiding development to the right places and sharing the costs, particularly in the first stages. Lastly, industrialists and commercial concerns should look more closely at the opportunities afforded by the reception areas. They contained many attractions which, at present, were being ignored.

Cheshire, rather than overcrowded Lancashire, is looked upon as the main potential outlet for the area's future land needs, so a great deal of interest centred on their reply to Manchester's claims, when the county's views were put forward by Alderman Howard Robertson. He described the county's overspill scheme as "very successful." They had made nearly 1,700 houses available so far. Manchester's preoccupation with Lymm and Mobberley, he maintained, had prevented progress being made in other, more practical schemes. In Cheshire they were faced with a number of serious difficulties. Many of the county districts were unwilling to consider receiving overspill. Macclesfield had refused to discuss it: projects at Congleton and Crewe had not materialized. If industry was the key to successful dispersal Manchester should do far more to bring about its redistribution. Manchester was asking for large-scale sites within daily travelling distance from the city, but this would confine the possible zone to districts where the level of demand was already high and which were quite unsuited to this type of development. The county had found "block" sites for about 9,000 houses, although he admitted that only one-third of them were immediately available for development. He was convinced that the calculated overspill total could be substantially reduced if better use were made of the redeveloped sites within the city with high density flats. The county had a duty to defend valuable agricultural land from wasteful development. If large-scale development were needed the Pennine valleys were a more satisfactory location than the Cheshire plain.

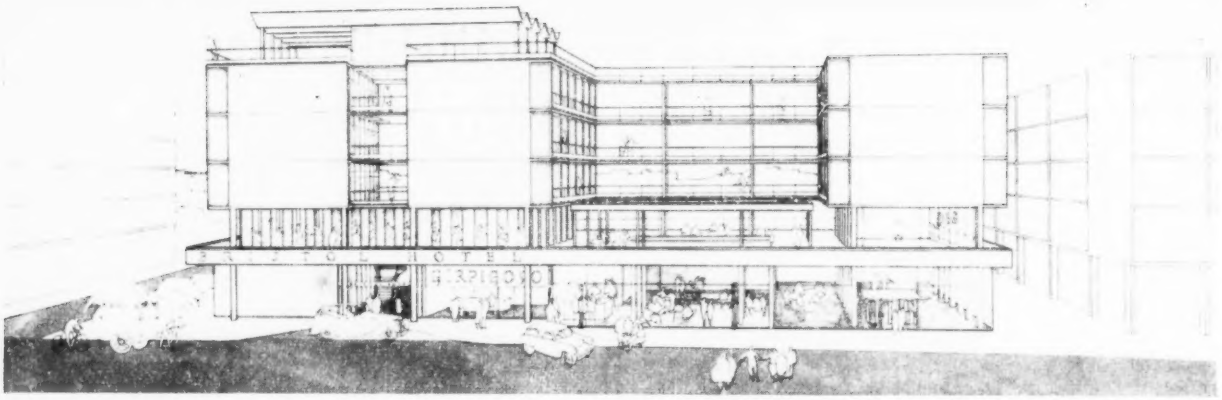
His speech provoked a quick response from the Manchester delegates. One of them contrasted the figure of 1,666 houses built in 10 years (579 of them for Manchester people) with the thousands of sites promised and the 80,000 known to be needed. That, in his view, was a measure of the co-operation given by Cheshire to "this large city on which they had lived and battened for so long."

Mr. Peter Self wound up the conference by giving an outsider's judgment. In his view both the main protagonists were setting about the problem in the wrong way. Continual expansion of the suburbs was clearly no solution. A new town was needed to meet the region's immediate demands and, unless the Minister could provide a better alternative, the project at Lymm should be allowed to go through. It was infinitely better than the present system of "bits and pieces." In view of the local authorities' failure to agree on a basic plan, he thought the most pressing need of all was to call in a consultant planner who could prepare a scheme for the region as a whole.

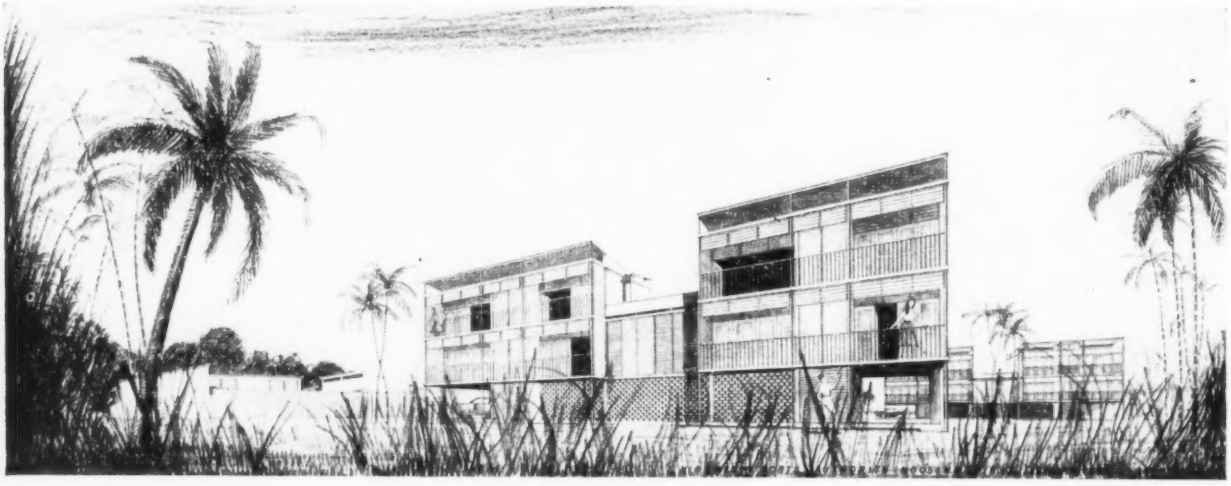
To the planners present the conference was a saddening experience, for it demonstrated once again the inability of the present machinery to come to grips with a real and vital practical problem. The failure is not at the technical level: Mr. U. A. Coates' comments indicated very clearly how far we have advanced in developing the necessary know-how; what we lack is the means and the will to put knowledge into effect.

The chief culprit

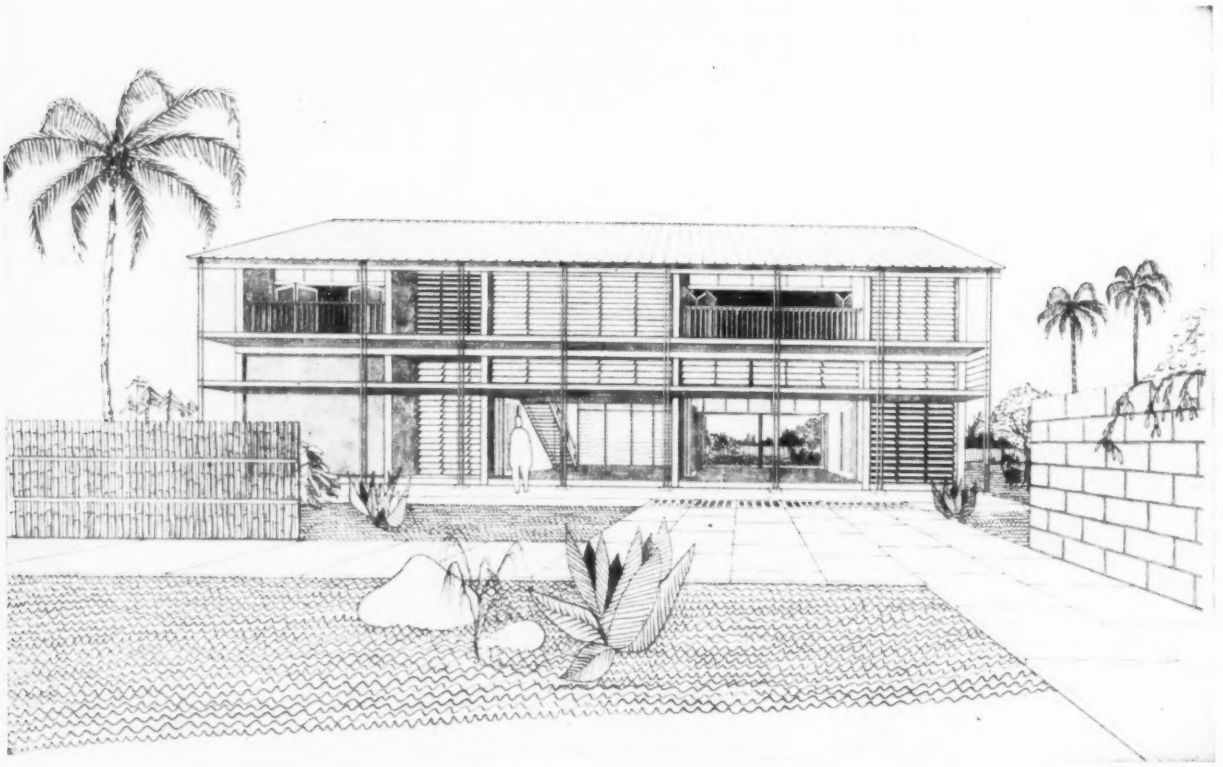
A number of factors have brought about this lamentable state of affairs. Central government must bear part of the blame for its apparent refusal to see these problems as anything but local affairs, and for its rigid adherence to a set of financial principles that make the Town Development Act a dead letter, while at the same time refusing to sanction the setting up of any more New Town Corporations. At the local government level, the unwillingness of some elected representatives to consider any other point of view except that which serves the immediate short-term advantage of their own locality has certainly aggravated all these difficulties. But the chief culprit would seem to be the antiquated pattern of local government boundaries which fosters intense rivalries and conflicts. So long as this system persists there is clearly no hope of securing the effective co-ordination of the specialized facilities required throughout the whole urban area. It is to be hoped that the disastrous stalemate so much in evidence at the conference will convince the Minister that a site for at least one new town should be sanctioned immediately and a regional authority set up without delay. The facts show that both are urgently needed.



perspective by Michael Jerome



perspective by John Smith



perspective by John Marsh

Opposite: three buildings referred to in this article; top: 50-bedroom hotel at Lagos; centre: standard houses for the Nigerian Ports Authority; bottom: standard "grade 2" house for Esso West Africa, Inc.

In the rapid expansion of their economies, involving substantial building programmes, the peoples of West Africa who are now achieving nation status will have to rely for some years on technical experts from abroad, including architects. The problems of architectural design and building in Southern Nigeria, including those arising from the climate, labour, materials and organization, are here discussed by Architects Co-Partnership. This London firm has for the past three years had an office at Lagos.

BUILDING IN THE TROPICS

Architecture on a large scale is a relatively recent phenomenon in the entire tropical region, even if one remembers the pioneering efforts of Brazil and the giant undertakings of the Public Works Departments in British overseas territories. It is particularly new on the west coast of Africa where only ten years ago Maxwell Fry made the first important contribution with the Ibadan University. This remarkable achievement almost coincided with the beginning of a great economic development programme. It will be realized, therefore, that there are many problems in building which have yet to be solved and that the solutions in so far as they exist are still at an elementary level. Every building is in the nature of an experiment.

The economic growth and development of Nigeria has been extremely rapid in the last fifteen years. Central Government revenue, for example, has increased tenfold between 1939 and 1953 and exports have shown an even greater rise from £10·5 millions in 1939 to about £125 millions in 1953. The increase in building activity can be measured by the fact that in 1939, 51·1 thousand tons of cement were imported; in 1953 the figure stood at 297·4 thousand. The greatest obstacle to further expansion of the economy is, as the report of a mission organized by the International Bank of Reconstruction and Development points out, the shortage of trained administrators and technical experts. Nigeria must of necessity therefore rely in the next ten years at least on trained people from abroad. This latter group will, of course, include architects, engineers and quantity surveyors, and a number of such firms from this country now have offices in Nigeria.

It may be worth while to document the experience of a particular office, Architects Co-Partnership, which has a branch in Lagos, staffed by a resident partner and a number of Nigerian and European architects. Its Lagos office was opened three years ago and the projects described are some of those which have been developed during that period.

It was realized that there would be a great many problems in running a Nigerian practice, the chief of these being: (*a*) lack of trained indigenous staff; (*b*) the high cost of maintaining expatriated staff; (*c*) the difficulty of keeping in constant touch with new technical problems on which information had not reached overseas; (*d*) contact with advanced research organizations which do not exist in West Africa; (*e*) the probability that, because of the low standard of craftsmanship, an excessive amount of job supervision would be necessary compared with European practice. This would involve employing an uneconomically large staff.

ACP has tried to solve these problems by maintaining close co-ordination with its London office and frequent interchange by two partners and by regular and detailed job reports. The major part of the work of the Lagos office is confined to the preparation of sketch designs in close collaboration with clients and job administration and supervision. The London office prepares working drawings and is responsible for all other information necessary for tendering and building. In practice this system has worked well and has prevented the two offices from becoming separate entities.

The climate

Building must satisfy the environmental demands of its users. Both the emotional and physical demands of the inhabitants of the Tropics differ from those of the Northern Countries where the bulk of contemporary architecture has so far been developed. These considerations, together with those relating to materials —the level of technology and craftsmanship, the availability of products and the relative cost of labour and material—are therefore creating a new architectural

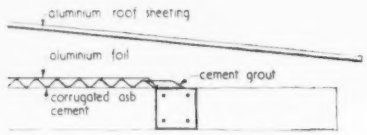


Fig. 1. An insulated roof: aluminium roof sheeting, air space, aluminium foil, corrugated asbestos ceiling.

vocabulary. Some aspects of this in so far as it has been used or developed by ACP are discussed in the following examples.

The Southern part of Nigeria lies within the hot humid zone. Maximum bodily comfort is to be found in the shade in the open air. All building must somehow thus recreate this relatively ideal condition unless mechanical means of climate control are used.

Sun and shade

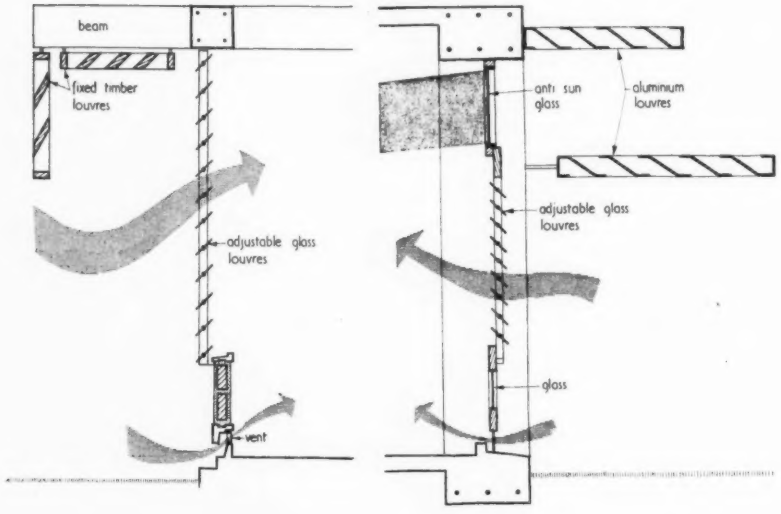
The sun shining out of a clear sky provides around 300 B.Th.U. per hour per square foot on horizontal surfaces and may give as much as 200 B.Th.U. on vertical surfaces. On cloudy days there will be diffuse radiation which though it does not reach these figures will still be extremely high. All parts of the building therefore need adequate shading. The roof is obviously a critical area, particularly in low buildings where it may be the greatest collector of solar heat. It must therefore throw off as much heat as possible and in no way store what little it absorbs. An aluminium roof with ventilated space below it and a plasterboard ceiling will produce a ceiling temperature only 3° F. warmer than the outside shade temperature. A similar construction with a clean asbestos cement roof (in any case a short-lived situation) will give a ceiling 16° F. or so warmer than the outside. The reflection of long wave radiation by metallic surfaces is the only sure way of achieving temperatures close to the ideal (Fig. 1). It is also important that the roof construction should have the lowest possible thermal capacity so that the heat is not stored and released during the late afternoon or night. Concrete roofs or ceilings seem definitely undesirable.

The walls will receive only slightly less solar heat per square foot than the roof but must in addition to reducing heat-gain within the building, control glare, admit breeze and light, and exclude rain. To some extent these individual requirements conflict with each other. In many ways the simplest solution to these problems is to separate the various functions: to create an outer skin which provides shading and glare control and to have an inner skin which deals with the rain and breeze.

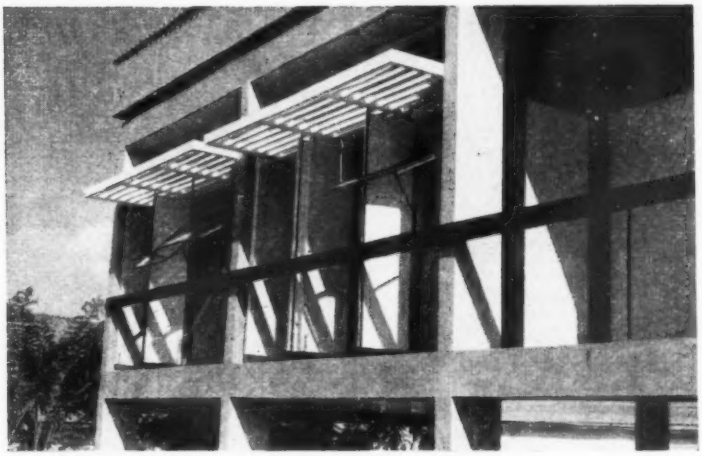
The offices at Victoria Street, Lagos, show an outer skin of horizontal and vertical timber screens and an inner layer of louvres and windows (p. 750). A very similar solution has been used on an office building at Apapa for Esso West Africa Inc. Here the inner skin consists of louvres, solid walling and a fixed low level ventilator (Fig. 2). In both these examples glare control is given by the shading devices. Where, however, there are deep offices with an access gallery on one side it may be useful to keep the shading devices more open and subdue the light intensity by using coloured glass in the critical area just below the ceiling. At the offices for the Nigerian Ports Authority soon to be built as part of the wharf extension at Port Harcourt this latter method has been used (Fig. 3).

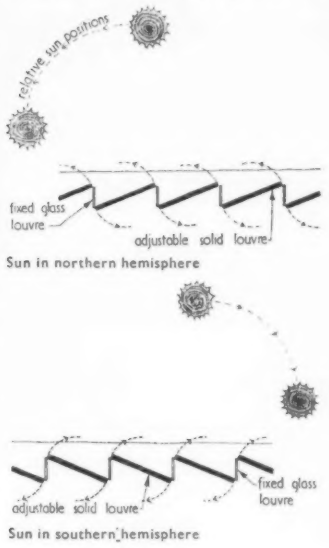
At the Marketing and Export offices at Ibadan, illustrated opposite, a combination of shading devices is employed. A projecting timber screen provides the bulk of the shading and fixed louvres above it control the critical glare between sky and ceiling. The wall below this consists of project-out windows flanked by opening doors which become large vertical louvres. In each of these examples the buildings were close to the ideal orientation of having their long exposed sides on the north and south, that is to say, facing in the directions where the sun is high and will therefore penetrate the least distance into the building. Buildings which must for some reason or other face East and West demand different shading methods.

On such orientations vertical movable louvres give the greatest control (Figs. 4 and 5). As it is important,



Figs. 2 (left) and 3 show different arrangements of outer layer of screens combined with an inner layer of louvres and windows.





Above : shading device, Marketing and Export Offices, Ibadan. Right: Figs. 4 and 5 show that vertical movable louvres give the greatest control.

however, to allow light to enter even when the louvres give their maximum shading or are keeping out driving tropical rain, some part of the wall must be left transparent. This can be done by taking the louvres part of the way up the wall or by introducing glazing strips between them. This is being done in the design for the National Bank of Nigeria office building.

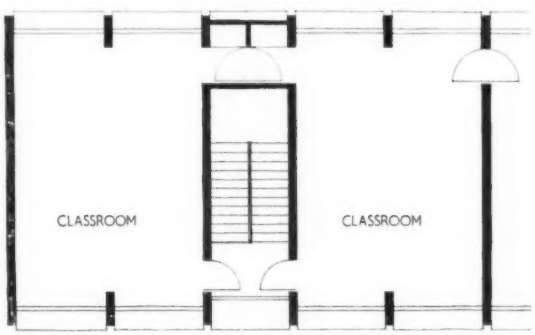
Breeze

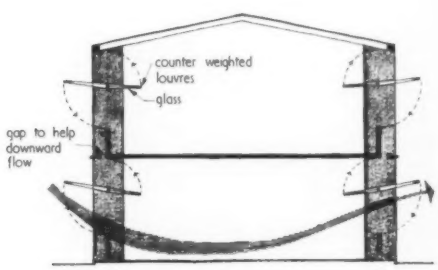
Bodily comfort depends on sufficient air movement across the skin to provide cooling by evaporating the perspiration. Most habitable rooms have, of course, fans to give some such breeze and buildings are planned one room deep to give cross ventilation. Buildings should also, of course, be orientated so that the prevailing wind will blow through the rooms. At the Ansar-un-Deen School, for example, classrooms are completely open on both sides and are reached from a staircase shared by two rooms (Figs. 6 and 7). The large counter-weighted louvres are tilted so as to deflect the air onto the floor. This is a most important consideration and some of the standard louvres and gear for projected windows now on the market suffer from the serious drawback that they cannot be moved beyond the horizontal.

Recent research in Texas has shown that greater air movement will occur in a room if the windward side has a smaller opening than the leeward side. This principle has been applied to the design of the opening at the Nigerian Ports Authority offices at Port Harcourt, shown in the section illustrated (Fig. 8).

Sound control

The inevitable result of keeping large parts of the wall permanently open is that a great deal of the sound generated leaves the room. This has two rather obvious effects. If hearing conditions are at all critical there may be too much absorption by open windows in large rooms. In teaching areas, for example, it would seem advisable to keep ceilings "hard" so as





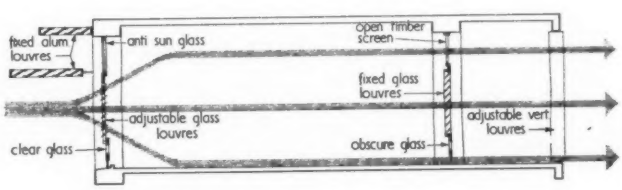


Fig. 6 (above, left) and Fig. 7 (above): classrooms open at both sides with counterweighted louvres to deflect air on to the floor. Fig. 8 (left): greater air movement results if the windward openings are smaller than the leeward openings.

ARCHITECTS:—
Dodge & Reid,
Chartered Architects,
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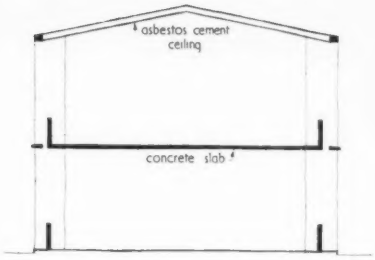
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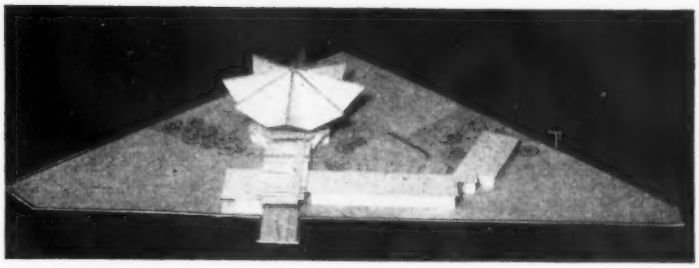
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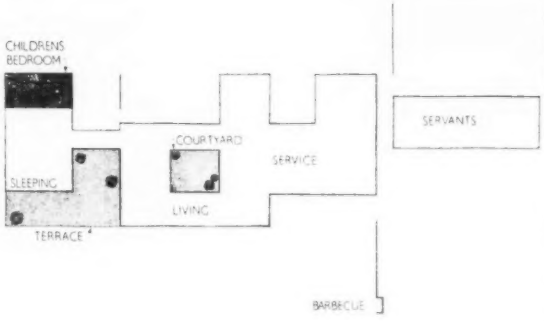
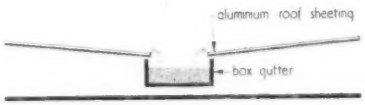


Fig. 9 (left, above): open windows call for hard ceilings to reflect the teacher's voice in the schoolroom. Fig. 10 (left): the plan keeps the children's bedroom away from the noisy living and service area; (above): model of the British Council Centre, Ikeja.

to reflect the teacher's voice. At the Ansar-un-Deen School the ceiling of the top floor classroom is asbestos rather than a softer board for this reason (Fig. 9). In much the same way the auditorium of the British Council Centre to be built in Ikeja, the mainland part of Lagos, has a deeply folded timber ceiling which should reflect and disperse sound. Walls are open and shaded by split bamboo blinds. A model is illustrated above.

As so much of the noise is lost, it does mean of course that neighbouring spaces will hear a great deal of it. Only planning can overcome this problem. At a guest house for the Shell-B.P. Development Company at Enugu, for example, the children's bedroom is secluded at one extreme end of the building (Fig. 10).



Rain

The roofs of most buildings acts as both sunshade and umbrella. In addition to reflecting the sun it must therefore be waterproof and shed the heavy sudden rainfall efficiently. Under the bye-laws ruling in Nigeria only valley gutters are permitted and these should be wide enough to be able to be cleaned and prevent the breeding of mosquitoes. Two solutions have been adopted in recent designs: a butterfly roof with a wide central gutter and a pitched roof spilling into a large drainage channel on the ground directly below the eaves (Figs. 11 and 12). The first solution seems most appropriate for multi-storey buildings, the second for single-storey structures.

On a few occasions in the year severe line squalls occur from the north east. Louvres for example will, although closed, allow rain to be driven between them. To guard against this, the movable glass louvres have on the Esso Office Building at Apapa been fixed clear of the cill and dwarf wall and allow any water that has penetrated to drip out again (Fig. 13).

Materials and craftsmanship

Timber, palm frond matting, bamboo, sand and stone are the indigenous building materials of Nigeria. Cement, steel, aluminium, asbestos, glass, paint, sanitary ware, water tanks, electrical fittings, ironmongery, all these have to be imported. Freight charges, packing, insurance and duty are together a sizeable proportion of the cost of any building in Nigeria. Unfortunately most buildings of any size and complexity demand these imported materials.

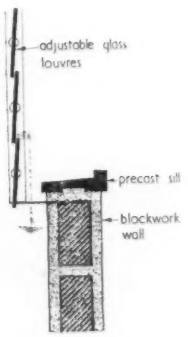
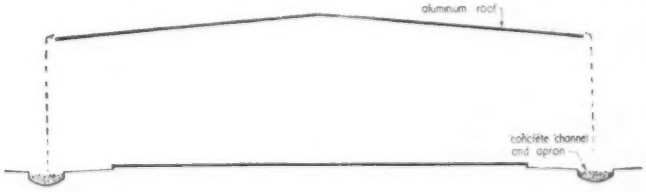
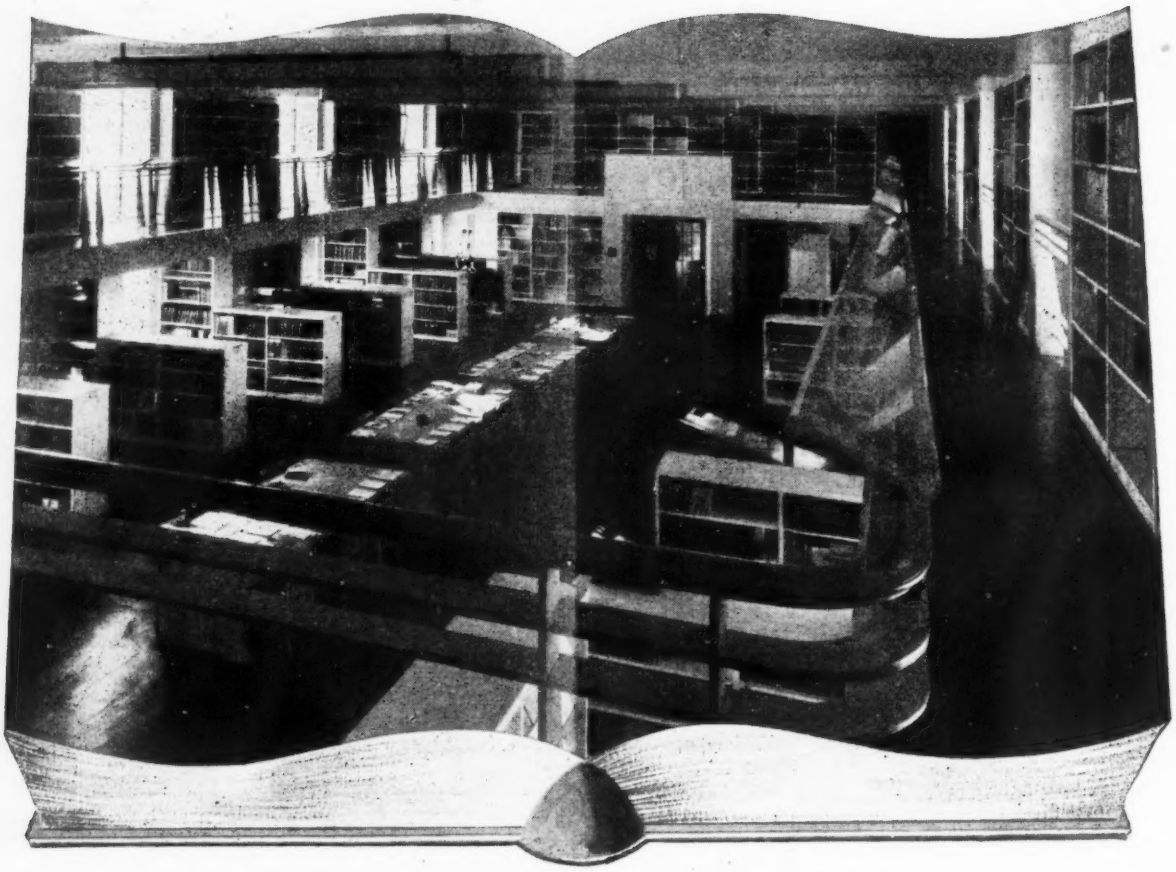


Fig. 11 (left above): roof drainage for a multi-storey building, and (Fig. 12, below) for a single-storey building. Fig. 13 (left): movable glass louvres fixed clear of the sill and dwarf wall to allow driven rain to drip out again.





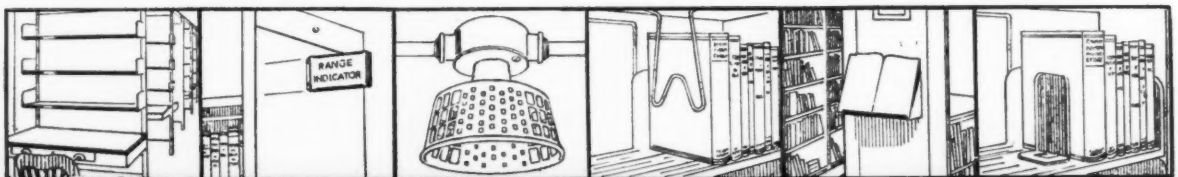
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The standard of craftsmanship is low, as would be expected in an undeveloped country where there are few natural building materials and where European techniques are demanded. Training of craftsmen is of recent origin, but the output from the Government Technical schools, the P.W.D. and a few European building firms is small and has so far made little impact on the general standard of building.

To raise the standard of building is a gradual process and will take time. For the moment simple detailing and design, giving the greatest possible degree of dimensional tolerance is perhaps the best way of ensuring a reasonably satisfactory end product. Sophisticated details carried out badly are worse than intentionally simple details carried out well. This does not preclude the use of highly finished imported components (aluminium pivot louvres, projecting windows, etc.) in a simple carcase, *e.g.*, cement/sand block cross-walls with reinforced concrete floor slabs.

A well-finished building which accepts these limitations can do more good in creating an attitude which demands a raising of building standards generally, than a highly detailed and finished building beyond the scope of local labour. Provided there is constant supervision which demands the highest possible standard of craftsmanship within the limitations of a simple design, increasingly higher standards will be achieved.

Supervision is the most important factor in helping to achieve any sort of quality in building and constant detailed supervision, amounting at times to actual demonstration on the site by the architect, is absolutely essential. The most completely detailed drawings and comprehensive specifications are useless without frequent and lengthy site visits.

Reinforced concrete and precast sand/cement block work are the most widely used building materials at present. Steel is expensive and its use is confined to large-span single-storey structures. It would be assumed that timber, the one indigenous building material available in Southern Nigeria, would be more widely used; this, however, is not the case due to prejudice, high cost and lack of knowledge in its proper use. A long-term research programme into the use of timber as a structural material is long overdue. Such problems as seasoning, termite control, etc., must be solved before the potentialities of this material, in what are admittedly difficult climatic conditions, can be fully exploited. Plywood is readily available and at Sapele there is one of the largest plywood factories in the world. It may be that the reconstitution of timber into chip boards and laminates may prove to be the best solution to the problem.

Roofing materials remain one of the most difficult problems in terms of cost and climatic control. No suitable long-term indigenous materials exist and flat roofs are not only unsatisfactory, but are also expensive. Roofs, therefore, tend to be conceived from the start in terms of sheet materials, aluminium, asbestos, corrugated steel or plastics. A discussion on the problems of roof design is outside the scope of this article.



Fig. 14: ground and upper floor plans of the Esso West Africa grade 2 house.

Clients

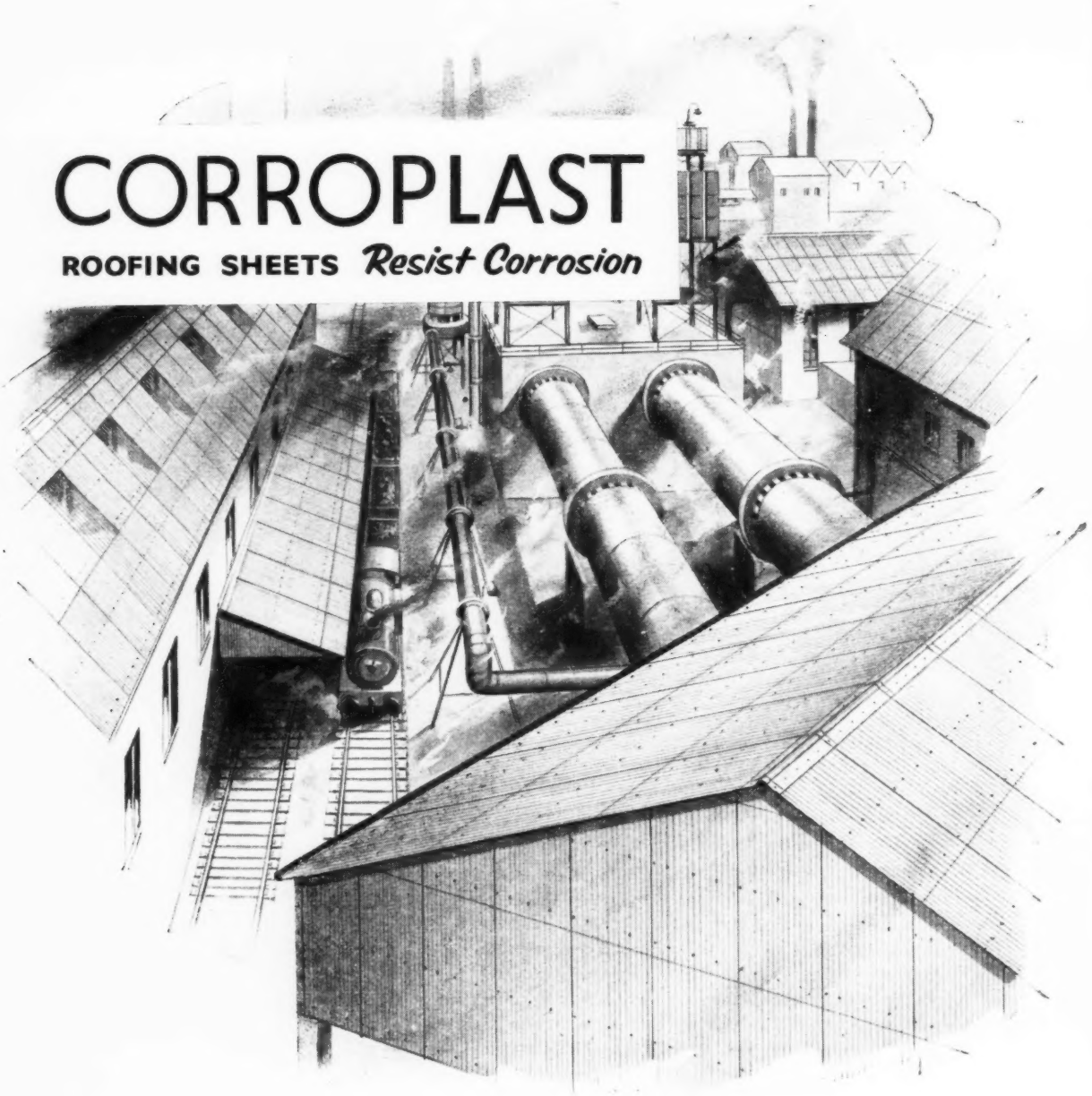
Architectural prejudices are less seriously entrenched in Nigeria than England. Only once during the three years that A.C.P. has been practising in Lagos has a design been rejected on the ground of being "too modern."

The Partnership's clients have not only been enlightened but also varied. They have included large public bodies like the Nigerian Ports Authority and the Marketing and Export Board; the petroleum companies; an Indian trading house; the National Bank of Nigeria who are investing on a considerable scale in Lagos and for whom four projects are at present being designed—the Bank Headquarters Office Building, two lettable office buildings, and a 50-bedroom hotel (illustrated, page 744). They have also included local professional people wanting to build their own houses or start small speculative ventures; a British trading company; a regional co-operative bank and the British Council.

In order to meet the demand for housing by commercial companies and certain public authorities, a series of standard houses has recently been developed. These are intended to be competitive in price with the range used by the Public Works Department for government officials. The construction consists of unrendered cross-walls in cement sand blocks with movable louvres or doors between them. The roof is aluminium and the floor hardwood boards on exposed joists. The emphasis is on space rather than finishes. A perspective of the Grade II house is on page 744, and plan (Fig. 14) is above.

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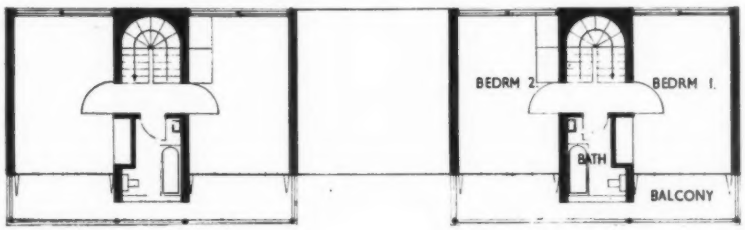
A series of standard houses has also been designed for the Nigerian Ports Authority and two groups of these are now under construction. All living accommodation has been taken off the ground in order to get more breeze and there are wide balconies on the first and second floor. The construction is in reinforced concrete on blockwork walls. A perspective is on page 744 and the plan (Fig. 15) is below.

In addition to the Grade II houses shown in the illustration, there are three other grades of accommodation. The labelling of living accommodation by grades is incidentally an unfortunate P.W.D. tradition now deeply ingrained. The Nigerian Ports Authority has taken a healthily broad view of the function of the architect and has recently asked A.C.P. to design a series of standard furniture suitable for production in Nigeria. This will go into the houses now being built. The Partnership has already designed furniture for the Authority's Board Room and the Ports Authority has altogether shown a design consciousness which is almost "Olivettiesque" in scope.

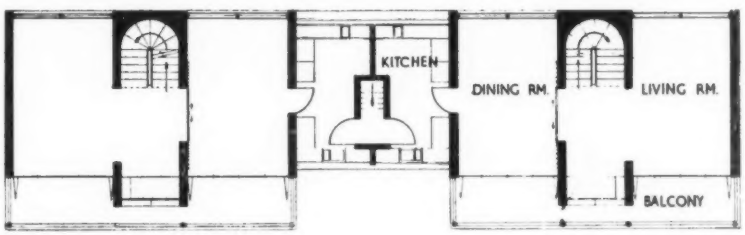
Town planning

Great areas of Lagos are soon to be reconstructed under a development programme. Unfortunately, planning is not of the most forward-looking kind and stock solutions based on European models of the last 30 years are being employed without a great deal of previous research. The great opportunities of rebuilding a tropical city which will, on the one hand, make it possible at some future date to incorporate the most advanced technical developments, and on the other allow the rich patterns of Nigerian life to continue, are hardly being tackled with the vigour and imagination which they deserve. The architect's task of designing buildings within a meaningful content, rather than the creation of individual manifestos, is thus not made easy.

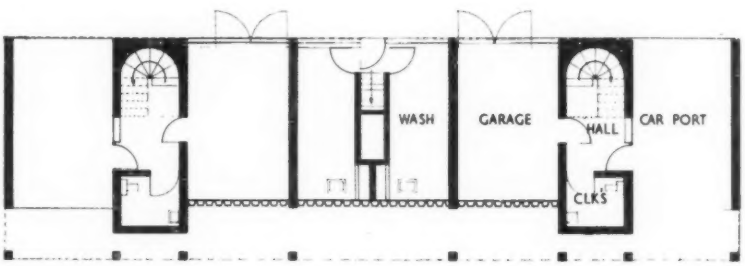
Fig. 15 (below): floor plans of the three-storey Nigerian Ports Authority standard grade 2 house.



Second floor



First floor



Ground floor



Shading device, offices at Victoria Street, Lagos.

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THE INDUSTRY

Brian Grant reviews a water-saving tap, a new overhead radiant space heater, and a range of plastic electrical fittings.

SAVING WATER SUPPLIES

The photograph below shows the new Unatap, made by Walker Crosweller, already well known as the makers of the Leonard thermostatic mixing valve, and of Spirax steam taps. The tap was designed in collaboration with the Building Research Station after a survey by the latter in an office block, where it was discovered that, with ordinary lavatory basins, the weekly consumption per head was 9.9 gallons of hot, and 3.7 gallons of cold water for men, women using about 2½ times this amount. After spray taps were introduced, giving a supply of four or five pints a minute at a temperature of 105 degrees, total water consumption fell to about half, 9,000 gallons of hot and 2,000 gallons of cold being saved each week. Although the tap was designed with the primary object of saving water, the saving in fuel should also be considerable. Washing under a spray is, if anything, easier and quicker than in a filled basin, and has for a number of years been a usual practice in factory wash rooms, and there is no reason why the same method should not be extended to offices, schools and other buildings where large quantities of water are used. There is a further advantage that basins designed for use with sprays can be simpler in design, and need no plug or chain, and it is also possible to use smaller pipes for both water supplies.

Hot and cold water supplies are both connected to the tap, and when the valve is opened the cold comes in first, further opening admitting the hot water and restricting the cold until the required temperature is reached. The tap is not thermostatic, and for this reason it must be fed from storage tanks to provide equal pressure. Connected in this way it has the approval of the British Waterworks Association. Price, in polished chromium, is £6 15s. (*Walker, Crosweller & Co., Ltd., Whaddon Works, Cheltenham, Glos.*)

The Unatap, made by Walker Crosweller.

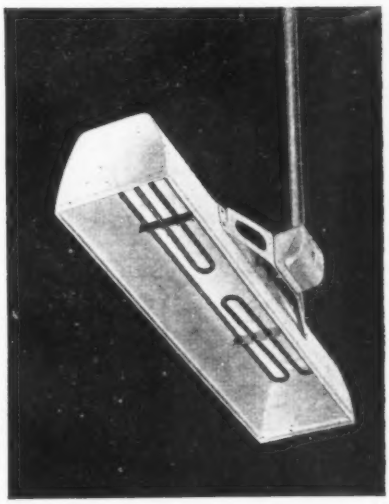


RADIANT SPACE HEATING

Metrovick announced a new 3-kW. radiant space heater at the beginning of this month. It is intended not only for shops and warehouses but also for shop entries, outdoor cafes, or other places where any form of convected heat would be either ineffective or too expensive. The unit consists of a metal sheathed heating element with an aluminium reflector, and weighs only 5 lb. This low weight simplifies the supporting arrangements and the heater can be carried on a single 1 in. diameter conduit. A fixing bracket allowing angular adjustment is also available as an extra. The heating element has a robust tubular sheathing of corrosion resisting alloy enclosing the heating spiral, which is thus well protected from the weather, and waterproof joints are used for all connections, so that no trouble should be experienced when the heaters are used externally. List price is £8 10s. (*Metropolitan-Vickers Electrical Co. Ltd., Trafford Park, Manchester,* 17.)

PLASTIC ELECTRICAL FITTINGS

E. F. Electric Ltd. have produced a new range of plastic plugs, switches and sockets called, because of their colour, the "Ruby Range." The manufacturers claim that the colour has been carefully selected to blend with any scheme of decoration "whether contemporary or traditional." The square



Above, the 3-kW. radiant space heater, by Metrovick. Below, plastic socket and plug by E. F. Electric.



AC plate switches have fixing holes spaced to suit a terminal box, and the mechanism projects behind less than the plaster thickness. The same plate size will accommodate one- or two-gang switches. Three-pin plugs and sockets are obtainable with round or flat pin (to BS 1363 for 13 amp.) for flush or surface mounting, shuttered or open sockets. Sample prices: one-gang switch, 32s. per dozen; three-pin 13-amp. switched socket, flush mounted, 76s. per dozen (see illus.); 13-amp fused plug tops, 39s. per dozen. (*E. F. Electric Ltd., Willow Lane, Watford, Herts.*)

Chain of events

From laying of the foundations
a chain of events is wrought
by the elements —



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technical section

INFORMATION CENTRE

8.55 surveying: specification

SPECIFICATION

How to Write a Building Specification. G. Chrystal Smith, A.I.A.S., A.I.Q.S. (George Newnes Ltd. 16s.)

In his preface the author writes "In theory the architect prepares the specification. In practice it generally falls to the quantity surveyor or building surveyor," and we must admit that there is a disconcerting core of truth in this statement. This little book is useful to the architect, if for no better reason than that it is valuable to know what his accomplices in the building team are expecting of him. At the same time it is important to note that the wisdom it contains is not related to elemental bills or to any reorganization of the contract documents which may be necessary to facilitate cost analysis.

In the first part of the book the author sets down a "standard method of specification writing" to correspond to the "standard method of measurement," taking trade by trade and setting down the facts which must be stated for each and the order in which they must be considered. The result is at least a useful office check list. The second part of the book contains that most debatable section of all books on specification, a set of "model clauses," 488 of them in all. These are inevitably a snare to architects for the simple reason that architects have never been taught to "think" specification as they design and therefore depend too much on previous or other people's clauses. The moral, of course, is to write the thing for yourself and merely to use the crib as a check afterwards and if this is granted those given in this book are as useful as any. The third part contains a set of specimen clauses for improvement work and the book ends with a "schedule of rates."

10.156 design: building types

OLD PEOPLES HOMES

Housing of Old People. MOHLG Circular No. 18/57. (HMSO. 4d.)

From the administrative point of view two things are to be noticed: first that the limited sharing of facilities is encouraged and that the Minister will approve new buildings with one bathroom to four dwellings and one lavatory to two dwellings; second, that County authorities are encouraged to co-operate with housing authorities in the provision of warden services. The circular concludes with some useful recommendations on design for the housing of old people in amplification to those given in the *Housing Manual, 1949*, and the *Housing for Special Purposes Supplement* of the same year.

7 PRACTICE

the architect and contract planning

Our review of BRS Digest No. 91 *The Programming of House Building** which appeared on October 25, 1956, implied that this Digest was of little use to architects on grounds of obscure presentation. We print below an article written by an architect who wishes to remain anonymous and who has had experience in applying the principles laid down in the Digest. The purpose of the article is to show in some detail how the Digest can, in fact, be used to secure better contract planning.

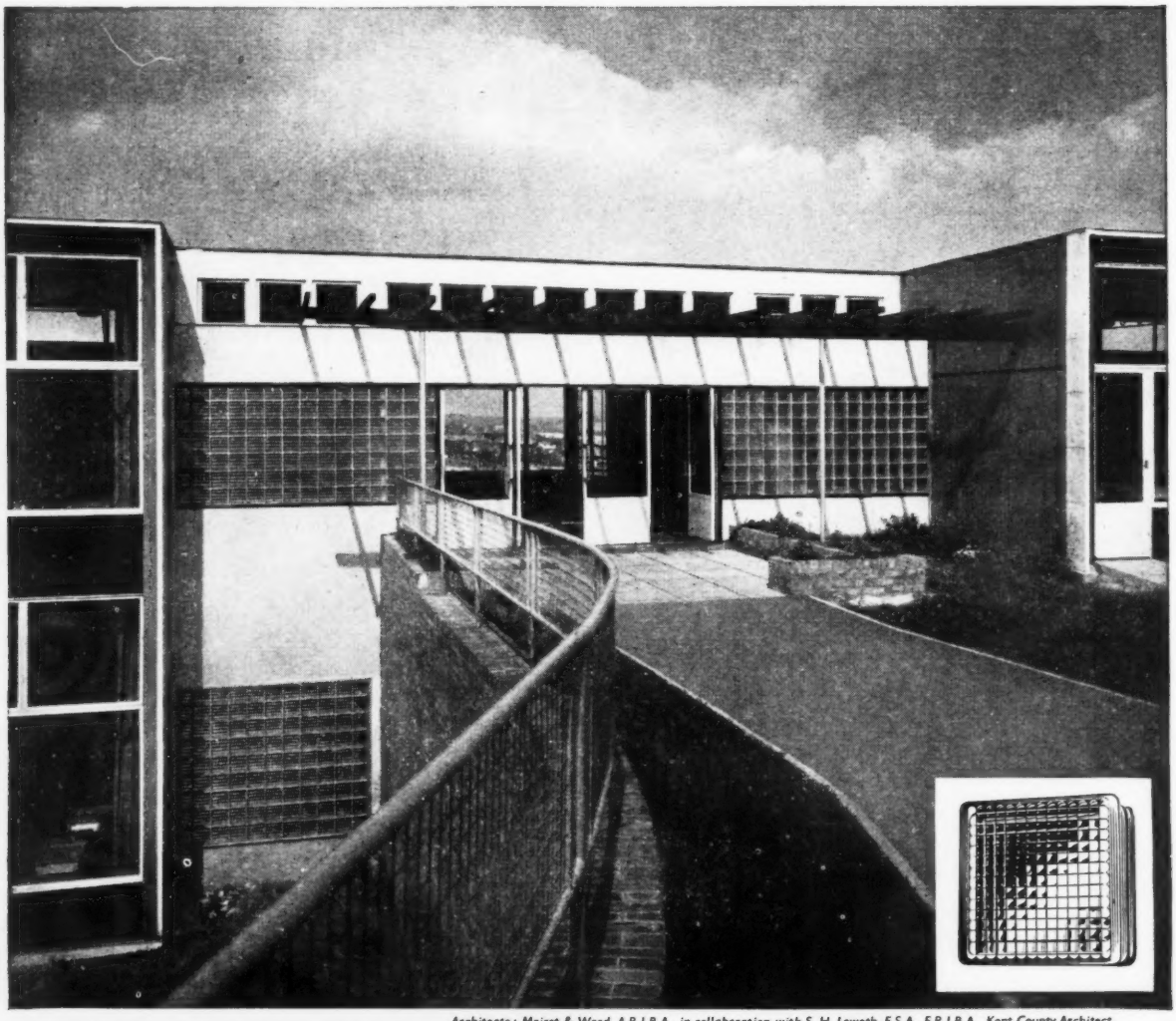
There is an idea steadily gaining support that ultimately the architect, QS, and contractor must be brought together at the outset of a project, and indeed that together they should comprise a design and construction team all acting on behalf of the client; but until such a relationship exists any improvements in contract management that can be made must be within the framework of present relationships.

There are several actions that an architect may take now to improve the running of contracts. First and foremost he must put his own house in order so that he can ensure that his own contribution will always be delivered on time. To have all the information available before the quantities are taken off may rarely be possible, however desirable, but the important thing is for the architect to be quite sure about when it will be available. An article published in the AJ for October 13, 1955, described a technique for programming and progressing office work that had this object in mind.

The second thing that an architect can do is to learn enough about contract planning to be able to recognize a reliable contractor in the same way that he learns about structures, acoustics and the like, and so is able to recognize a good adviser on these subjects; and to be able to spot obvious weaknesses in schemes put up to him from unreliable sources.

To summarize the present position it might be said that the architect generally knows nothing about contract planning, that he delegates the responsibility for it to contractors whom he may not know and whom experience too often shows to be inexpert; that the architect has no means of judging the contractor's ability before or during the contract; and that he has no means of checking whether the contractor is proceeding "regularly and diligently" enough until the completion of the contract, when what he then knows is too late to help his client to have occupation of the

* HMSO 3d.



Architects: Moiret & Wood, A.R.I.B.A., in collaboration with S. H. Loweth, F.S.A., F.R.I.B.A., Kent County Architect.

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technical section

building when it was required. It can be argued that the architect does not need to concern himself with these things because the penalty clause will ensure that the contractor honours his obligations, but the fact is that in most contracts the responsibility for delay can rarely be pinned firmly on the general contractor.

Within limits then, contract planning must concern architects, but it cannot be their responsibility to plan contracts. They will rarely acquire enough experience, for as Mr. Peter Trench, of Bovis, said at the discussion on Bills of Quantities at the Building Centre on October 24, 1956, it is a highly scientific job if done properly, and moreover the contractor must obviously carry out his own plan if he is to be held responsible for success or failure. But once an architect has studied a job that has been programmed and progressed on sound lines, however many difficulties may have arisen, he will appreciate the implications of contract planning, and he will be in the position of knowing what is necessary to ensure a well run contract, and of knowing on the smaller jobs exactly what is wrong with a contract that lags. A knowledge of contract planning of course also helps to ensure that some feature of design does not unnecessarily prejudice straightforward site organization.

Principles of contract planning

The BRS Digest No. 91 explains the basic principles of contract planning and illustrates a technique that would be suitable for housing contracts. It sets out as a formal procedure what is in fact normal practice of first class contractors. At first thought it may appear of little value to architects, but in fact it offers the opportunity that is wanted. From this digest the architect can see what the essential requisites of a well-planned contract are:

1. a breakdown of the whole job into a series of basic operations such as "excavate trenches," or "roof plumbing"—tasks that are easily picked out on drawings, in the bills, and on the site, and involve only one trade;

2. sufficient information about productivity to be able to guess with fair accuracy how much labour, plant and time will be necessary to carry out each operation;

3. an arrangement of the operations into a sequence so that one trade follows another with minimum delay, and with the minimum interplay between one trade and another, but with sufficient tolerance to look after hidden hazards.

Where this technique is applied to buildings other than housing, the job can be broken into phases so that several operations can proceed simultaneously in different phases, with a saving of over-all time. Practice shows, too, that in the breakdown of the job into separate operations, each operation must be clear cut and the smaller the better. Complex tasks such as "site slab," which may involve excavation, placing of hardcore, and concrete, laying of membrane and laying of top concrete, involve too many different kinds of work to be useful for either programming or progressing. In this case there are five operations and they should all be scheduled. Each operation must be such that however it is carried out, it is possible to estimate readily how much has been done.

Gaining experience

From this rather sketchy knowledge of the principles of contract planning, the architect can learn some more. He can start by finding out what he can about contractors' methods in smaller jobs. In the invitation to contractors to tender it can be stipulated that the contract is to be properly planned and that (*a*) tenders should include a schedule of operations showing the tasks and plant involved and an estimate of man/days required for each; and (*b*) that acceptance of tender depends upon the production of a satisfactory programme. The answer to (*a*) will indicate whether the contractor knows anything about the productivity of his labour and plant and whether he is used to planning contracts thoroughly. The programme suggested under (*b*) should be prepared after discussion between architect and contractor (when reference is made to BRS Digest No. 91) and when submitted by the contractor should be examined by the architect before being again discussed with the contractor. These exchanges will enable the architect to learn some more about the contractor's methods.

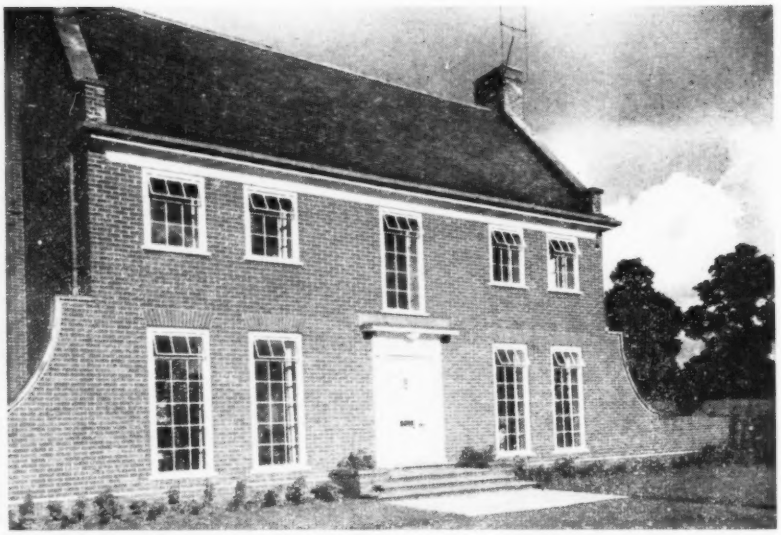
The first time an architect puts this approach into practice he can ask as many questions as he likes about the contractor's programme, but apart from insisting on clear definition and sufficiently minute breakdown of operations, and that the number of men to be engaged and for how long on each task are shown, it would be best to keep quiet, however many doubts he may have.

Progressing

At the commencement of work on the site the clerk of works must be given a schedule of the operations shown on the builder's programme and be instructed to report on special pro formas each day the amount of time put in by each trade on each operation in each phase. The contractor at the time of his appointment must be informed of this procedure.

The forms upon which clerks of works write their reports can be set out in a variety of ways, depending upon the use to which the information will be put, but for the purpose of progressing, the layout should enable a total of man/hours worked each week on each operation in each phase to be readily made. A suitable layout would be as shown in Fig. 1. If for other purposes additional information is required from the clerk of works the form can be modified if it does not entail much complication, or an additional form should be used.

During the contract the architect on regular site visits will make progress checks. For this, a form can be used on the lines of Fig. 2. As in the clerk of work's



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technical section

CLERK OF WORKS RECORD OF TIME SPENT

WEEK NO. 7
COM. DATE. Oct. 10th.

OPERATION			MONDAY				TUESDAY				WEDNESDAY				THURSDAY				FRIDAY				SATURDAY				TOT.	REMARKS
DESCRIPTION	SERIAL NO. & PHASE		T.	HRS.	L.	HRS.	T.	HRS.	L.	HRS.	T.	HRS.	L.	HRS.	T.	HRS.	L.	HRS.	T.	HRS.	L.	HRS.	T.	HRS.	L.	HRS.		T. = TRADESMAN L. = LABOURER
Concrete trenches	4	D			3	25½			3	25½			3	9			3	25½			3	25½			3	12	123	Ram on Wed
Brickwork to d.p.c.	5	B	3	25½	2	17	3	12	2	8																	52½	
		C						13½		9	3	9	2	6	3	25½	2	17	3	25½	2	17	3	12	2	8	152½	
Hardcore oversite	6	B			4	34			4	34			4	12			4	34			4	34			4	16	164	
Concrete oversite	7	A			7	59½			7	59½			7	21			7	59½			7	59½			7	28	287	
TOTAL MEN			3		16		3		16		3		16		3		16		3		16		3		16			

Fig. 1. The type of form on which the clerk of works might enter progressing information. It shows the total of man hours worked each week on each operation in each phase.

form, the first column contains the description of the operation, the serial number, and the phase. In col. 2 is inserted for each operation in each phase the total hours worked, up to the last check. (This is taken from col. 4 of the form used then.) In col. 3 the totals from the clerk of work's reports are written, for one or two weeks as the case may be, and in col. 4 is written the sums of cols. 2 and 3, *i.e.* the total man/hours worked to-date on that operation. This is just routine clerical work that can be done by anyone before the check is made.

On going round the job the architect, the clerk of works and the foreman agree on an estimate of the percentage completion of each operation in each phase, and the estimate is written in col. 5. This estimate is not difficult so long as each operation is well defined, concerns only one trade, and is a clear cut piece of work as discussed earlier.

Fig. 2. Form used for checking progress against programme. Notice serial 7, which shows a delay of 260 man hours and calls for immediate action. The delay on serial 5—35 man hours—should be watched but is not so serious for it represents only one day's work for the team of 5.

PROGRESS CHECK No. 3

WEEK NO. 6
DATE

COL. 1			COL. 2	COL. 3	COL. 4	COL. 5	COL. 6	COL. 7	COL. 8
DESCRIPTION	SERIAL NO.	PHASE	TOTAL MAN HRS. LAST CHECK	TOTAL MAN HRS. THIS PERIOD	TOTAL MAN HRS. THIS CHECK	PERCENTAGE COMPLETION	MAN HRS. NEEDED TO COMPLETE	MAN HRS. REMAINING IN PROG^ME	MAN HRS. DELAY
Concrete Trenches	4	A	170	—	170	100	—	—	—
		B	150	—	150	100	—	—	—
		C	110	50	160	100	—	—	—
		D	—	70	70	50	70	90	—
Brickwork to d.p.c.	5	A	350	-	350	100	-	-	-
		B	80	210	290	90	35	-	35
		C	-	-	-	-	} as in programme		
		D	-	-	-	-			
Hardcore oversite	6	A	60	145	205	100	-	-	-
		B	-	40	40	20	150	180	-
		C	-	-	-	-	} as in programme		
		D	-	-	-	-			
Concrete oversite (Lower)	7	A	50	300	350	50	350	90	260
		B	-	-	-	-	} as in programme		
		C	-	-	-	-	} but ? estimates		
		D	-	-	-	-			

technical section

If progress is up to programme no more need be done, but if a delay is apparent, a simple proportion sum can be done that will show the extent of the delay, and what must be done about it. If, for example, 400 hours have been spent on one operation that is judged to be 40 per cent. complete, then 60 per cent. remains to be done, and $\frac{400 \text{ hours} \times 60 \text{ per cent.}}{40 \text{ per cent.}}$ gives 600 man/hours, which is the time needed to complete the task at the speed the work is going. This figure goes in Col. 6. The programme chart might show that from present date there are two weeks left to complete the operation, and four men are scheduled and are in fact working on it. Clerk of works' report shows that the weekly hours worked are, say, 46½. Then 2 weeks × 4 men × 46½ hours = 372 man/hours remaining in the programme for this operation. This figure goes in Col. 7, and the difference between 600 man/hours (Col. 6) and 372 man/hours (Col. 7), say 230 man/hours, is written into Col. 8. This is 230 man/hours delay on the job, and 230 man/hours ÷ 46½ (hours worked per wk.) shows that about 5 man/weeks work is needed to put the matter right. The contractor can be asked what he is going to do about it; anything less than three additional men for nearly two weeks on this task will mean a delayed completion date. It must be borne in mind, too, that all estimates of progress tend to be hopeful. It may be argued that this sort of estimating is too liable to error for reliable forecasts to be made; certainly there is considerable scope for error, but far less than in letting events take their course.

Charts of various and familiar kinds can be kept to show the situation graphically, but above all, the information that the architect has enables him to relate delays to the manpower needed to get rid of them. Charts rarely do this.

"Regularly and diligently"

The information in the architect's hands also allows him to relate the manpower spent on each operation to that which the contractor wrote into his programme. This leads to a further exercise that the architect can carry out if after a short experience of the builder's work he concludes that the programme was not worked out as well as it should have done. He may see, for example, that lower site concrete took about 700 hours to complete in phase A while the contractor allowed in his programme for only 460. This miscalculation might be due to the men not having yet got into their stride, but when he sees that in lower site concrete in phase B 450 hours have been worked out of 600 allowed, and only 50 per cent. has been completed, he can take a look at that operation in phases C and D to see what trouble lies ahead. He can roughly measure the areas of site concrete in each phase and may find that they are as in Table I below. He knows the time spent on phase A and can deduce from his records what will be spent on phase B, and by proportion he can see what is likely to be required for C and D and can compare with what the contractor has allowed.

Table I

	A	B	C	D
Area of lower site concrete (sq .ft.)	5,000	6,500	4,500	6,000
Time spent (hrs.)	700	900		
Time required (deducted)			630	840
Contractor allowed (hrs.)	460	600	460	600

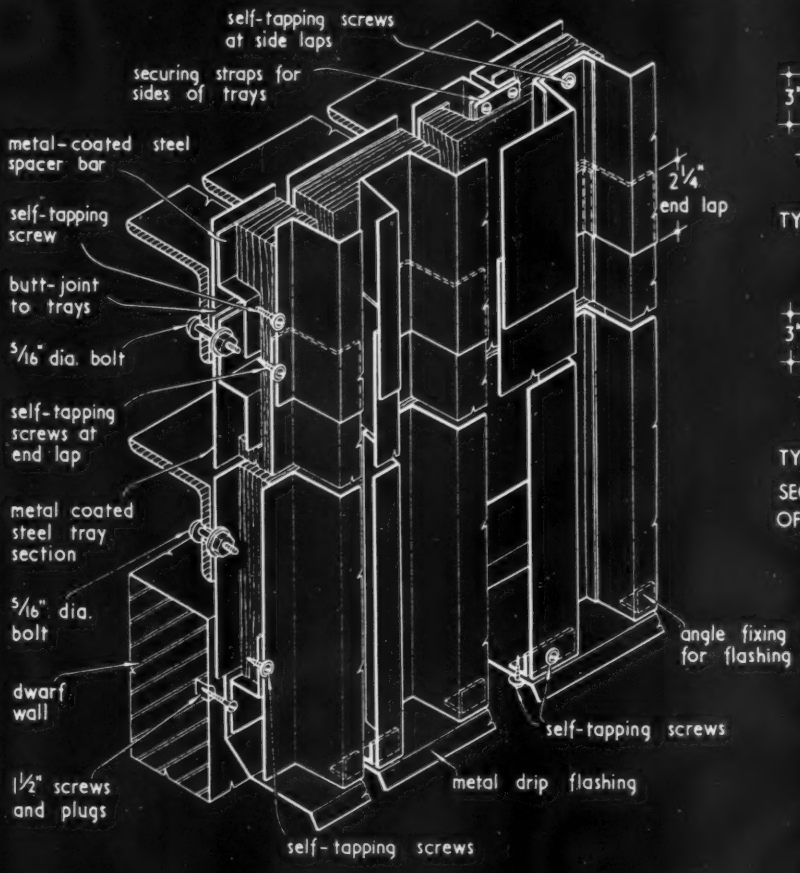
What he has done in effect is to find the productivity of the builder's team on this particular job and apply it to what has still to be done.

Some operations such as fixing windows could best be compared one phase to another by numbers of items; some, such as excavation by yard cube; and some such as walling one storey high by foot run; in fact, very approximate quantities. Whatever the operation, when the architect has found out the productivity he can make a pretty good guess at the size of labour force required to meet the programme, and if progress is not satisfactory, he can discuss his figures with the contractor and ask him to show how the contract can be completed on time. The gist of the discussion can be noted in the minutes of the meeting and the onus from then on will be with the contractor to show how he proposes to complete the job by contract date with the existing labour force, or with additional labour, or to show why he cannot do it. Unless he reacts in some way to the architect's comments he will be in no position to ask for extension of time. In this matter of satisfactory progress it must be remembered that the progress of the job as a whole depends upon the most backward operation and not on the most advanced, and that it is more important to complete one operation on time than to start two before time. Contractors even deceive themselves on this point.

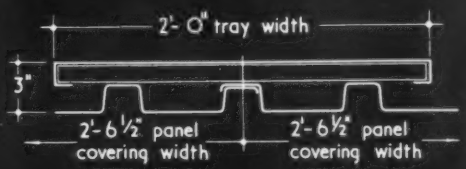
Post mortem and data

Careful recording of the job as described above will enable delays to be attributed accurately to the proper causes, which will not only be salutory to all concerned, but will provide experience for guiding future contracts. Study of contract management at such close quarters will give the architect a knowledge of productivity that will enable him to sense when a programme has been ill-considered. It will enable him to pinpoint the weak spots of site management and make appropriate comment when things on a job begin to drag and the contractor says "Oh! That's all right, Sir, there's only a week's work there."

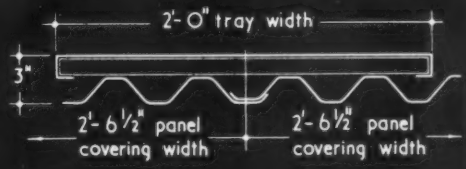
In conclusion, it should be repeated that however knowledgeable an architect may become about contract planning, it is not directly his business, and contractors must always take full responsibility. Some knowledge on the part of the architect will help to ensure that he does. In this, as in most games, there is more than meets the eye, and bystanders will miss things that may be the player's main concern; but if the team leader has a good working knowledge of all parts of the game, he will be able to recognise the best players and drop the remainder from his team.



TYPICAL FIXING TO SUPPORTING STEELWORK AND DWARF WALL. (showing type Q.S.A)

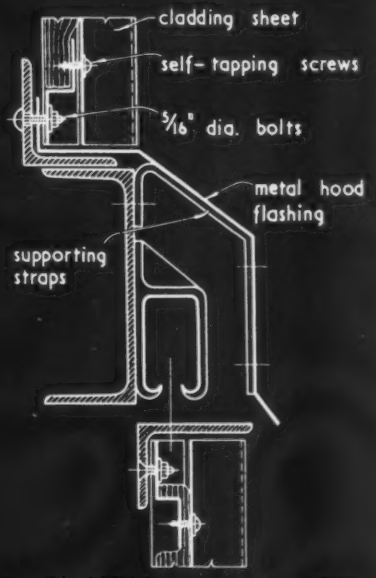


TYPE Q.S.A.

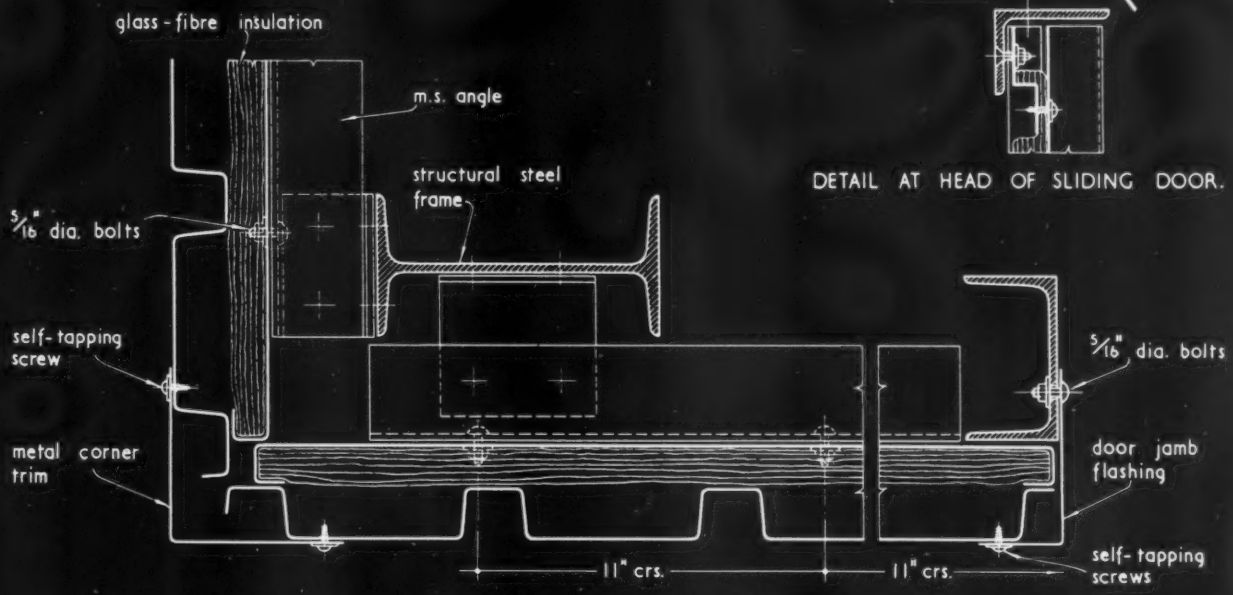


TYPE Q.S.G.

SECTIONS SHOWING ALTERNATIVE PROFILES OF CLADDING SHEETS.



DETAIL AT HEAD OF SLIDING DOOR.



TREATMENT OF CLADDING AT CORNER AND JAMB OF SLIDING DOOR.

Q-PANEL INSULATED WALL CLADDING: TYPE QS. Manufacturer: Robertson Thain Ltd.

21.Z2 ·Q-PANEL· INSULATED WALL CLADDING : TYPE QS

This Sheet describes a composite wall cladding system consisting of ribbed aluminium-alloy or protected metal sheeting backed with metal-coated steel trays filled with glass-fibre insulation. It is similar in principle to the cladding unit described on Sheet 21.Z1, except that the latter is assembled in the factory and the former on the site. The two Sheets should be read in conjunction, as the treatment of the cladding at corners, window and door openings and over dwarf walls is comparable, and therefore the complete range of details for each profile has not been given.
Q-deck, a similar system applicable to roofs, is described on Sheet 20.Z8.

Construction

The ribbed sheets are in 20 g. aluminium-alloy (QSA) or 24 g. Galbestos protected metal (QSG) and the profiles of each are given on the face of the Sheet. Adjacent sheets overlap one corrugation and ends are lapped 2½ in. (QSA) or 4 in. (QSG). 20 g. metal-coated steel trays are attached to the ribbed sheets by steel spacer-bars at 3 ft. 4 in. maximum centres, which are spot-welded to the tray and to which the ribbed sheeting is fixed by self-tapping screws. The trays can be in 18 g. aluminium-alloy in which case they are fixed to the spacer bars by rivets. The sides of the trays are butted and joined by flat straps and self-tapping screws.
The insulating material in the trays is 1¼-in. glass fibrous compound, which is non-hygroscopic, non-inflammable and vermin-proof.
The flashings and corner piece shown in the drawings are supplied by the manufacturer.

Sizes

The ribbed panels have an effective covering width of 2 ft. 6½ in. (QSA) or 2 ft. 2¾ in. (QSG). They are available in lengths to suit rail spacings up to 10 ft. 0 in. centres (QSA) or 8 ft. 6 in. centres (QSG).
The internal trays are 2 ft. 0 in. wide.

Weight

The panel weighs approximately 3 lb. per sq. ft.

Fixing

The tray sections are secured to the rails. Holes should be punched in the supporting rails during fabrication, $\frac{7}{16}$ in. diameter at 11 in. centres and $\frac{3}{4}$ in. from the toe of the angle. The trays are secured to the rails by $\frac{5}{16}$ in. diameter bolts. The sides of the trays are joined with straps and self-tapping screws. The insulation is applied in blanket form and temporarily retained by strips sprung into position. The outer ribbed sheets are fixed to the spacer bars of the trays with self-tapping screws which finally secure the insulation between tray and ribbed sheet. Where end laps between ribbed sheets occur off spacer bars they are secured with self-tapping screws driven into a steel washer plate at each corrugation. Aluminium flashings should be fixed with stainless-steel metal screws, and other flashings with sherardized steel sheet-metal screws, at 2 ft. 0 in. maximum centres.

Thermal Transmittance

The thermal transmittance value (U) of the panel is 0·18 B.t.u./ft². h. deg. F.

Finish

Exposed inside surfaces of metal-coated steel trays can be supplied painted with Robertson Q Undercoat, which forms a suitable base for any conventional oil-based paint finish.

Further Information

The manufacturer maintains a technical advisory department available to answer questions dealing with this subject generally. Publications will be sent upon request.

Compiled from information supplied by:

Robertson Thain Limited

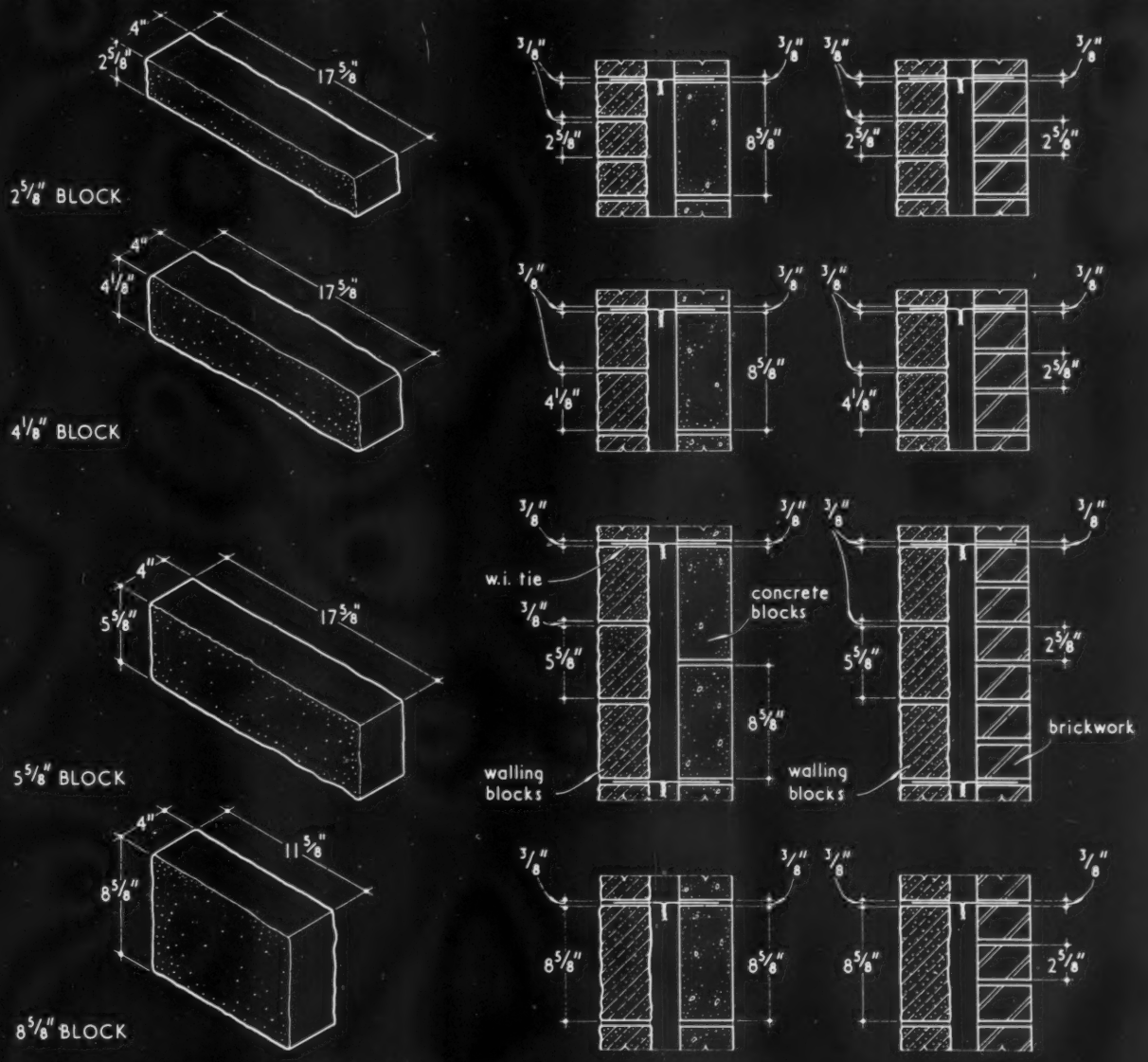
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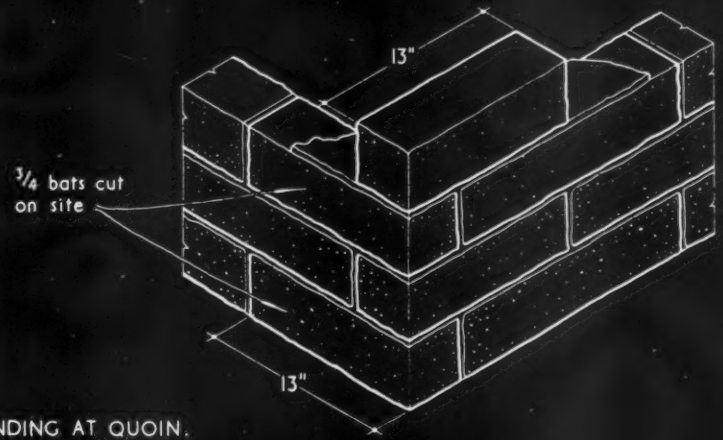


BUILDING BLOCKS | RECONSTRUCTED STONE

The Architects' Journal Library of Information Sheets 620. Editor: Cotterell Butler, A.R.I.B.A.



STANDARD BLOCKS AND APPLICATIONS TO CAVITY WALL CONSTRUCTION.



DETAIL OF BONDING AT QUOIN.

·REFORMITE· WALLING BLOCKS. Manufacturer: Selleck Nicholls and Co. Ltd.

14.F1 ·REFORMITE· WALLING BLOCKS

This Sheet describes Reformite walling blocks, which are designed to be used as facing or load-bearing units in solid or cavity wall construction.

General

The blocks are dense, durable, non-crazing, and indistinguishable in appearance and properties from natural stone. They may be cut with hammer and bolster in the same way as natural stone and laid in the conventional manner without special tools or apparatus.

Sizes and Weights

Size	Number of blocks per sq. yd. of wall laid with ⅜-in. joints	Weight of blocks per sq. yd. of wall 4 in. thick
17⅝ in. long × 4 in. thick × 2⅝ in. high ..	24	4 cwt. approx.
17⅝ in. × 4 in. × 4⅛ in.	16	
17⅝ in. × 4 in. × 5⅝ in...	12	
11⅝ in. × 4 in. × 8⅝ in...	12	

Crushing Strength

The crushing strength of the blocks exceeds that laid down in B.S.1217 : 1945, " *Cast Stone.*"

Drying Shrinkage

The drying shrinkage of the blocks is in accordance with B.S. 1217.

Laying

The upper and lower surfaces of the blocks are indented to provide a key. With a joint of ⅜-in. thickness the blocks will correspond with 2⅝-in. bricks or with blocks manufactured to B.S.2028 : 1953, when either of these is to be used for the inner skin of a wall.

All joints must be properly flushed up and filled with mortar. The mortar recommended generally for bedding is a gauged mix of 1 : 2 : 9 cement/lime/sand. In exposed situations a slightly stronger mix is advised.

Joints on the face should be raked out and solidly pointed in cement/sand mortar, finished with a smooth, struck weathered or keyed joint.

Colours

The blocks are manufactured in three standard colours derived from natural aggregates, silver grey, green and pink. Special colours can be produced to order.

Finish

The finished faces of the blocks are rough-dressed to resemble natural stone.

Ordering

Blocks may be supplied in any of the three colours to any one of the standard sizes or a combination of differing colours and sizes may be ordered. Precise requirements should be clearly stated.

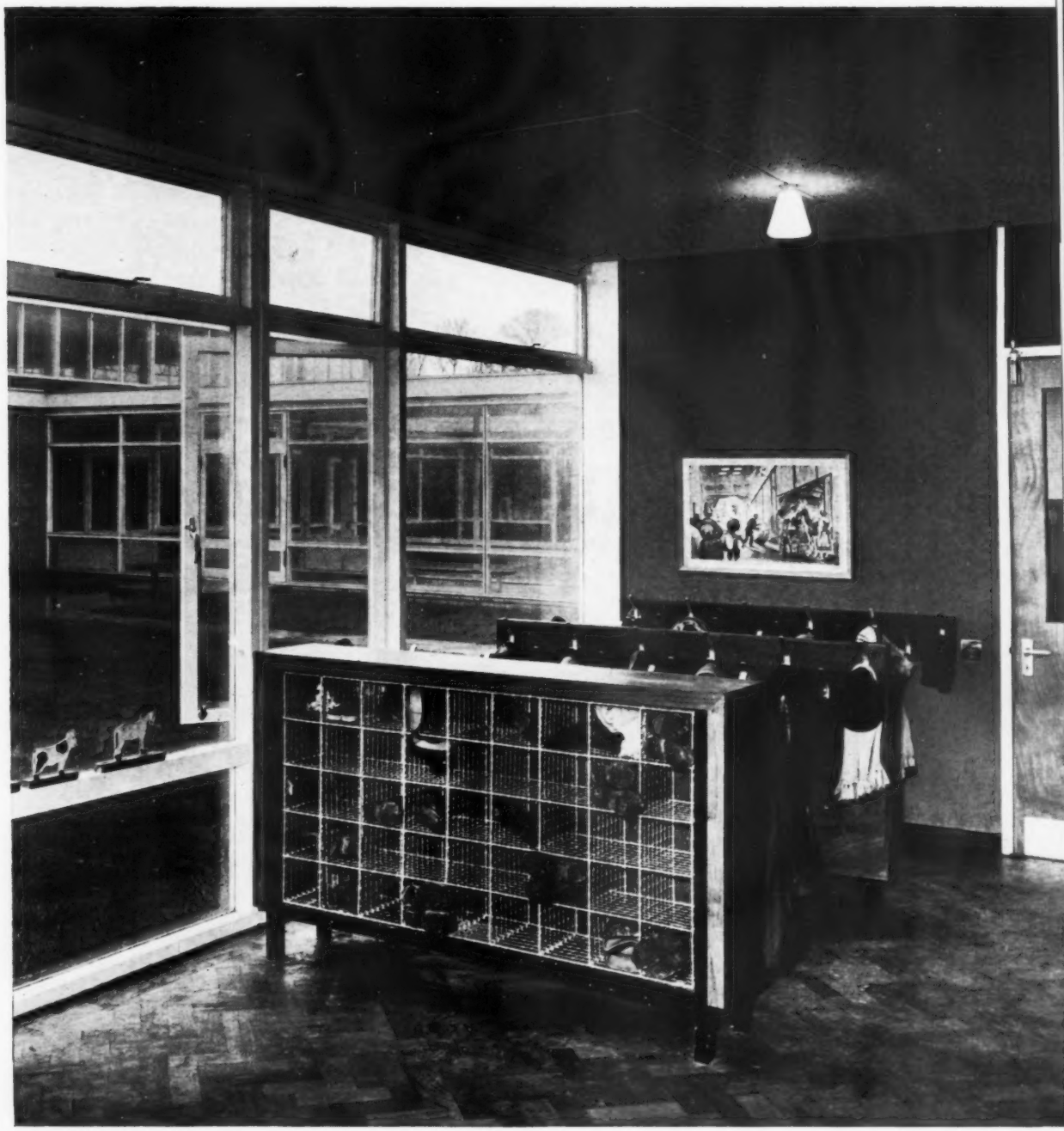
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Selleck Nicholls & Co., Ltd.
Address : East Hill, St. Austell, Cornwall.
Telephone : St. Austell 1071-4.

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working detail

CLOAKROOM FITTINGS: SCHOOL IN COVENTRY

Architects' Co-Partnership, architects

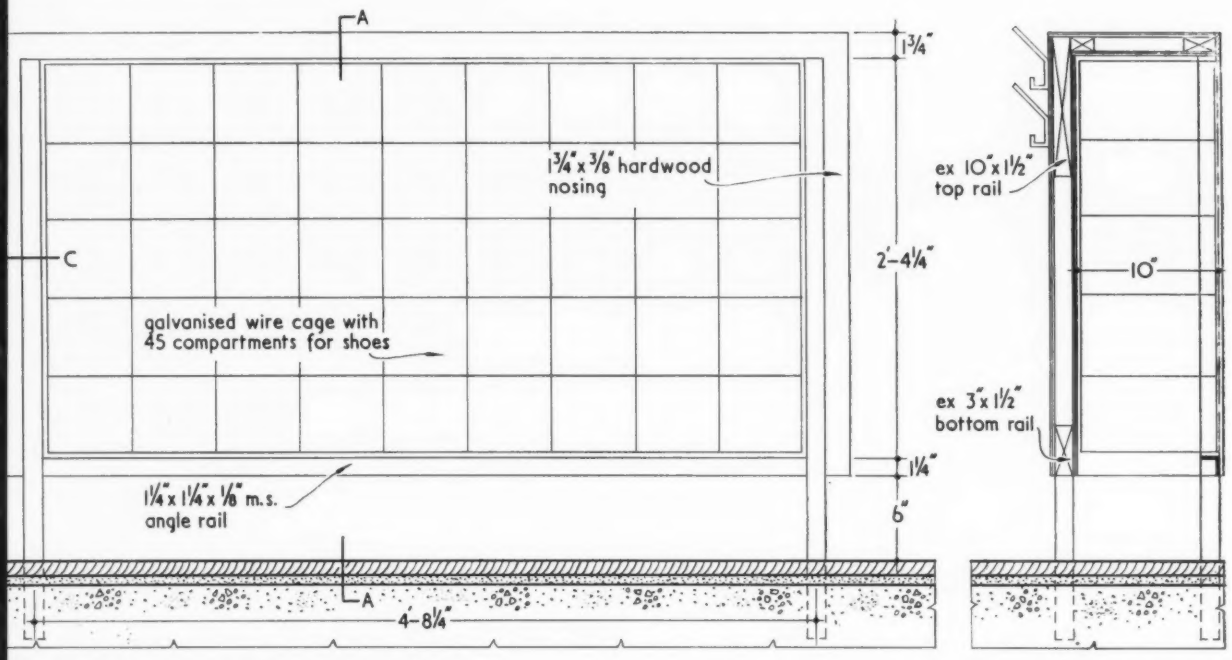


The fittings are of mahogany-veneered plywood with mild steel angle supports grouted into the site concrete. The wire compartments of the shoe locker are deep enough to take gumboots and there is nowhere for dirt to collect. The hooks on each side of the coat rack are staggered with those on the opposite side.

working detail

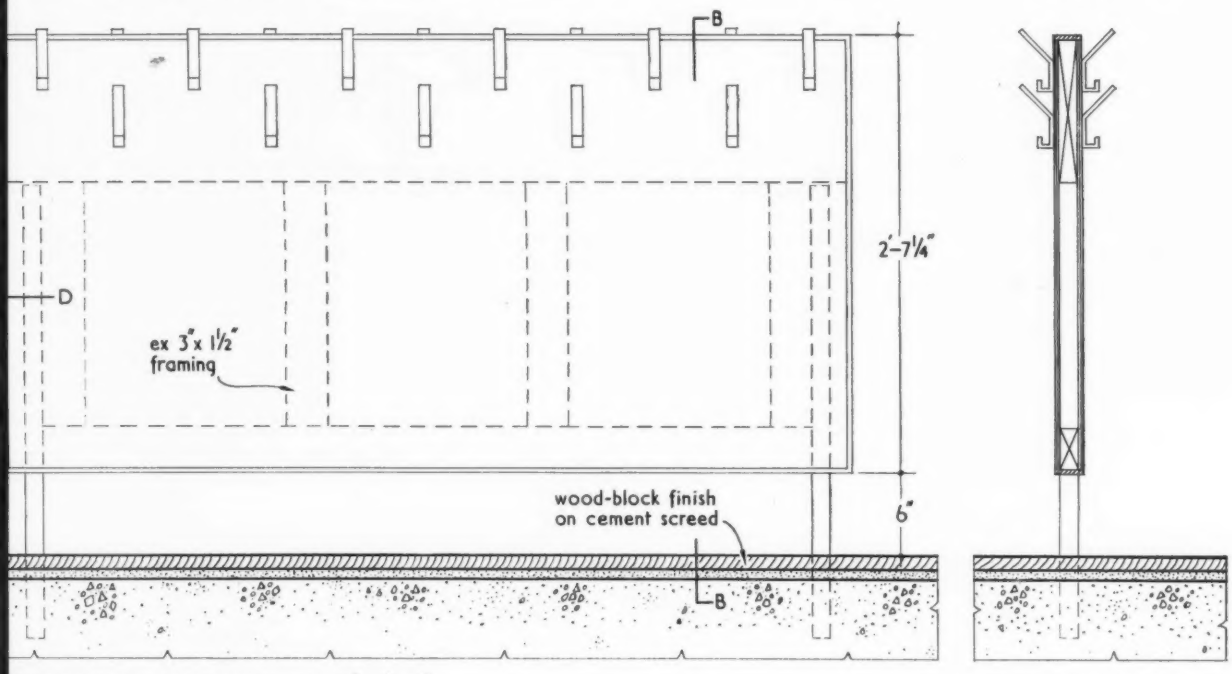
LOAKROOM FITTINGS: SCHOOL IN COVENTRY

rchitects' Co-Partnership, architects



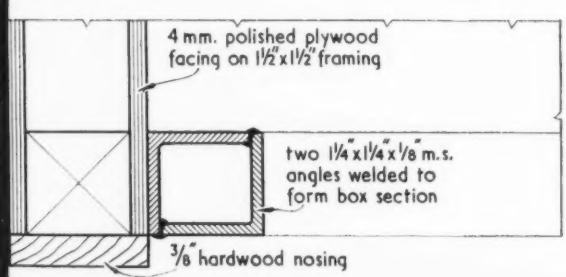
LEVATION OF SHOE LOCKER. scale 1"= 1'-0"

SECTION A-A

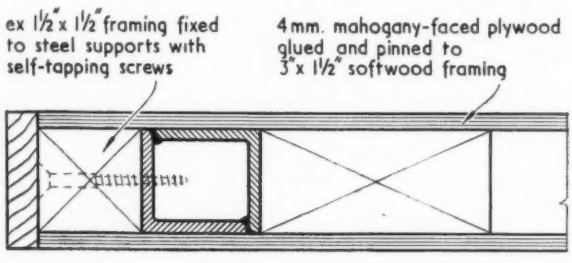


ELEVATION OF COAT RACK. scale 1"= 1'-0"

SECTION B-B



DETAIL AT C. scale ½ full size



DETAIL AT D.

DESIGNERS FOR THE INTERIOR: NICHOLSON BROTHERS
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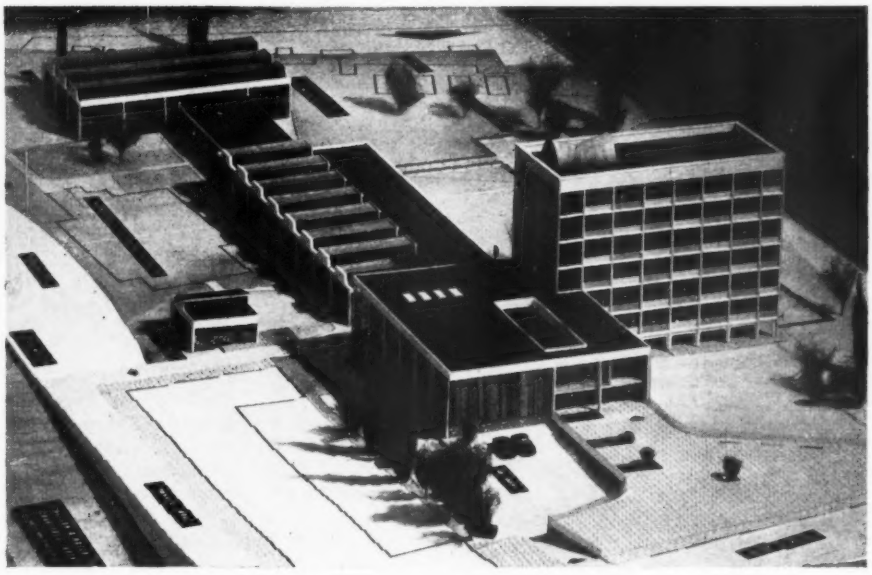
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R.16

THE PAISLEY TECHNICAL COLLEGE COMPETITION WINNERS

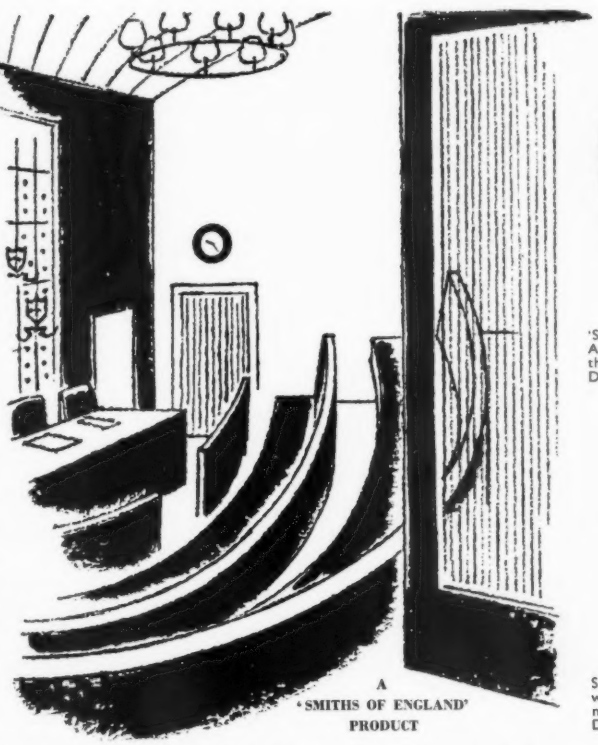


The team of architects in Alison and Hutchison and Partners who won the Paisley Technical College competition (model right) were: R. Forbes Hutchison, the senior partner; Stanley G. Owen, the partner-in-charge, George Bowie, John D. Robertson, James Watson and Derek Dorward. Mr. Hutchison formed the firm in 1950 on the death of the late Walter Alison, Kirkcaldy, with whom he was articled. After working in local authorities before the war, in which he served in the Royal Engineers, Mr. Hutchison was deputy city architect, Stoke-on-Trent, and chief architect to all the Scottish Regional Hospital Boards, except the Western Board. His firm has concentrated on hospitals and schools, but is now doing more housing and borough development. It has offices in Edinburgh and Kirkcaldy, and has recently opened a London office. (Details of this winning scheme were published in our issue for May 2).

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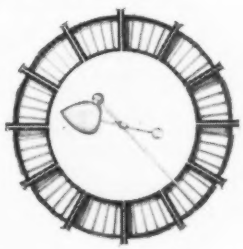


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Announcements

PROFESSIONAL

Edward A. Hunt, J.P., F.R.I.B.A., of William & Edward Hunt, has moved to Montmead, The Drive, Belmont, Surrey (telephone Vigilant 2492).

Sergei Kadleigh, A.A. (HONS) DIPL., A.R.I.B.A., HON. A.R.C.A., Reader in Architecture, Royal College of Art, and William Whitfield, DIPL.ARCH., DIPL.T.P. (DIST) DUNELM., A.R.I.B.A., A.M.T.P.I., announce that they have commenced partnership under the name of Kadleigh and Whitfield. Their address is: c/o The Royal College of Art, 23, Cromwell Road, London, S.W.7 (telephone Knightsbridge 4144).

Manufacturers who wish to order reprints of their Information Sheets in time for this year's Building Exhibition, at Olympia, which will be held on November 13 to 27, are advised to do so as soon as possible. In previous years many orders have been placed only a week or two before the Exhibition and we have had difficulty in dealing with them.

TRADE

Honeywell-Brown Ltd. have opened a new Branch Office at 517, New York Road, Leeds 2. The new office will handle all enquiries concerning industrial instrumentation, heating and air conditioning controls, and precision switches.

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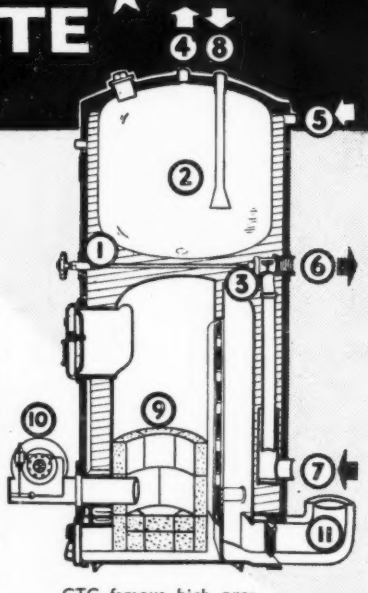
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Drawing by Andrew Dodds.

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ARCHITECTS' DEPARTMENT

A suggested wallpaper treatment for the Reception Area. (Left) Haywards 959. Haywards 923 (right). Though the primary purpose of the ARCHITECTS' DEPARTMENT is to give advice on the use of wallpaper it is also able to deal with enquiries concerning the use and choice of paints and fabrics.

WPM

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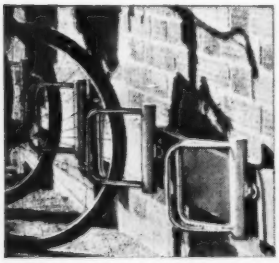


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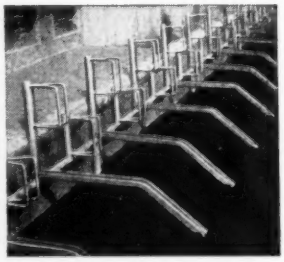
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VelopA Bicycle Holders, 45°, at King's College, Cambridge, specially made with extended upper bracket to suit recessed wall.



Model RT. 45°, bolted to timber beam.



Battery arrangement for bicycles at 12-inch centres.

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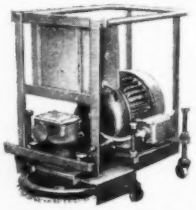
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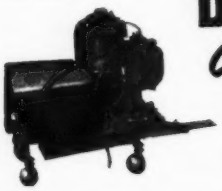
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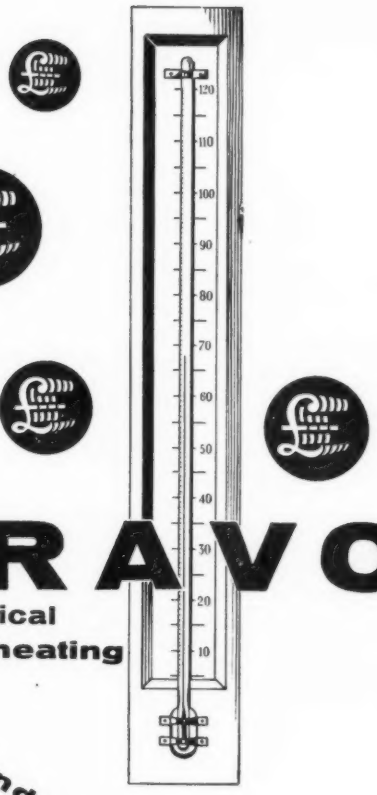
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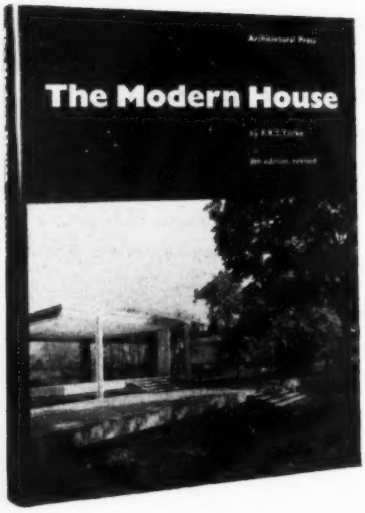
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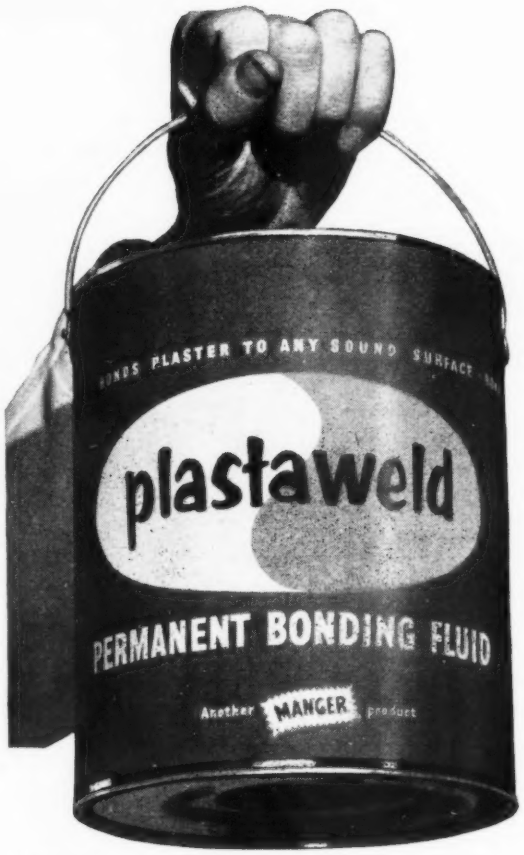


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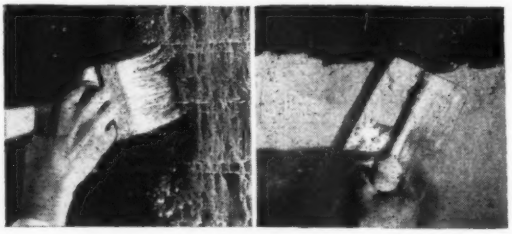
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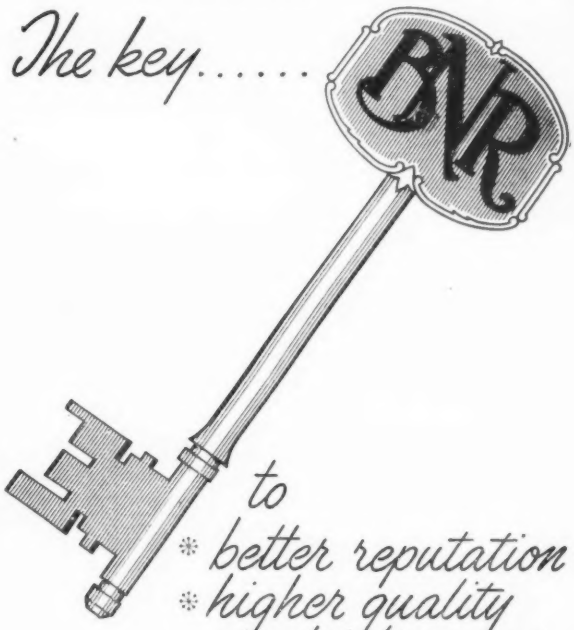
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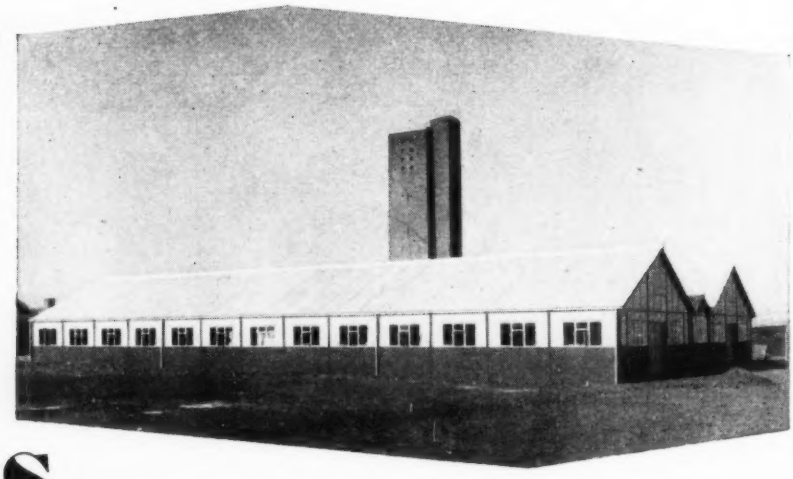
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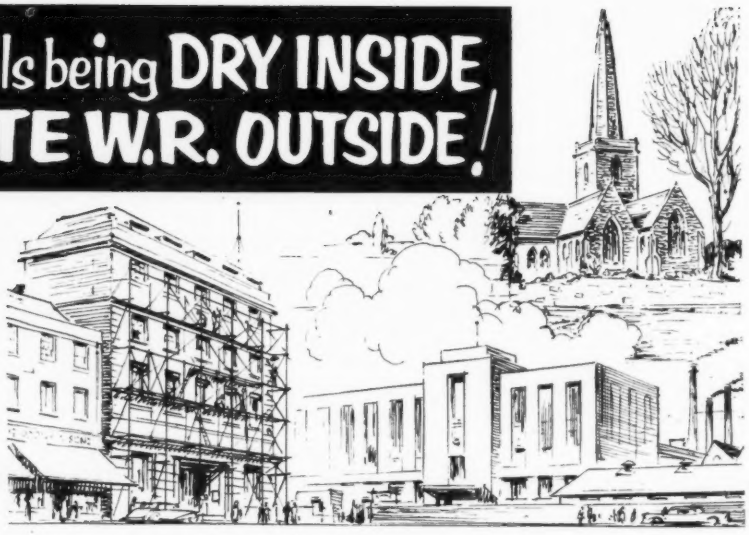
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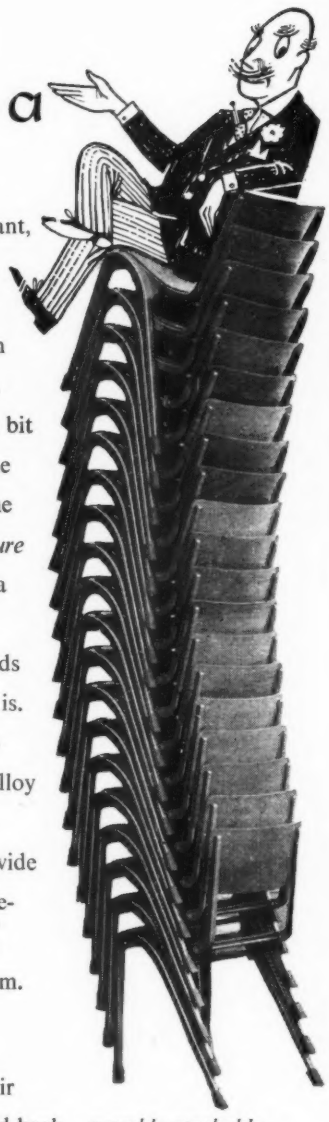
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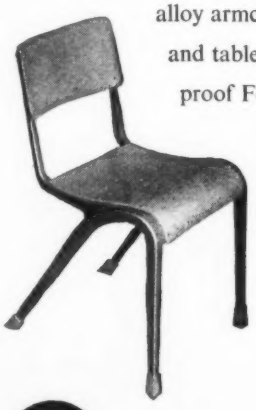
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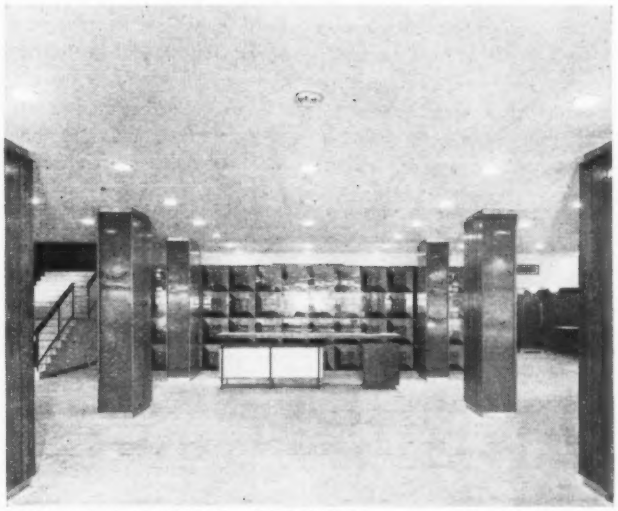
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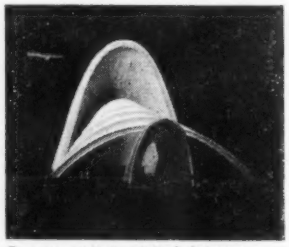
AMERICA

A *personnage* assembled from scraps of American advertisements and spitting ticker-tape on the cover of the May ARCHITECTURAL REVIEW will announce the theme of a special issue on **Machine Made America,** compiled, explained and assessed by the REVIEW's executive editor, Ian McCallum, whose previous foray into the American scene caused raised eyebrows and raised voices when its results appeared in print as a special issue of the REVIEW under the title *Man Made America,* this new survey, based on a study of architecture rather than the wider scene of land- and townscape, will scrutinise the aesthetics and the technics of the curtain wall as an example of what happens to one of the cherished dreams of the Modern Movement when it finally becomes commercially practicable, and becomes part of the available *syntax* of architecture. After this it will survey the diverse, original stimulating and experimental work of individuals and individualists from Coast to Coast, a body of work that is the *genetrix* of architectonic ideas without which the industrial contribution may prove sterile and short-lived.

Machine Made America will conclude by attempting to fit both industrialist and individualist into the *matrix* of the wider scene of world architectural development in this century and of American culture in the age of mass-production.



The Seagram Building, New York.



Concrete shell church by J. Johansen.

COUNTER ATTACK GROTESQUE OLIVETTI

Ian Nairn, of *Outrage* fame, will contribute a first essay on the aims and objectives of the newly-formed **Counter-Attack Bureau,** to the June issue of the ARCHITECTURAL REVIEW, and make proposals for positive anti-Outrage policies for the threatened suburban village-centres of Ewell, Colnbrook and Huyton. Two widely diverse Italian subjects to be discussed in the same issue will be the grotesque statuary and architecture of the Orsini garden at **Bomarzo,** considered iconographically by Dr. S. Lang, and the impressive and intelligent record of patronage in architecture, the arts, and design, of **Adriano Olivetti,** considered biographically by Georgina Masson. New buildings in this issue will be as different in type and place as the **Golden Lane** development by Chamberlin, Powell and Bon, and the **Museum at Accra** by Drake and Lasdun; the old buildings of the month will be **Balmes House,** Hackney, a forgotten, but representative piece of artisan mannerism which will be described and discussed by Priscilla Metcalf, and those in **Halifax Street,** Sydenham, another threatened area that comes within *Counter-Attack's* purview. *Skill* features of the month include a broad survey of food-preparation equipment, and in *Miscellany* Robert Melville contributes, as usual, his column of off-beat opinions on the world of art-galleries and exhibitions.



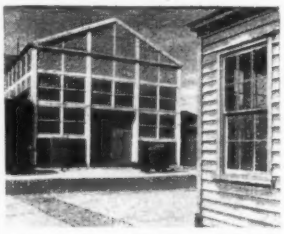
Subtopian Mess at Colnbrook.



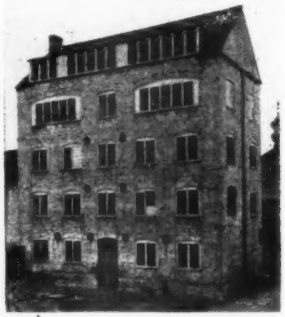
Golden Lane, by Chamberlin, Powell and Bon.

EARLY INDUSTRIAL

Mills, docks and harbours, warehouses, fences and gates, railways and canals—all bear witness to the theme of July's special issue of the REVIEW, *The Functional Tradition,* compiled and edited by J. M. Richards. In our present need to consolidate the results of the technical revolution that has overwhelmed architecture in this century, we need the discipline of an unconscious vernacular, a simple way of doing things simply, and we have no better guide for this than the monuments of the functional tradition that dot the country from end to end, even in the most remote and rural areas. The tradition is not limited to any material—with its wooden water-mills, its brick warehouses, its iron framed naval boatsheds, its stonework by canal and railway—it had the adaptability we admire in the great masters of today, fitting together material, function and form, but into an unselfconscious unity. Most architects know of the great tradition's existence, have seen one or two textbook examples illustrated, have discovered one or two favourites of their own, but in *The Functional Tradition* they will find for the first time a systematic analysis of the nature and value of the tradition, supported by the results of an extended photographic campaign by Eric de Maré, which has rescued many unknown and forgotten buildings from undeserved obscurity, and also set on record for the first time the little known architecture of the warehouses, rope walks and other buildings in the dockyards of the Royal Navy.



Sheerness Naval Dockyard: cast iron frame extension, 1858



Bentley's piano factory, Nailsworth, near Stroud.

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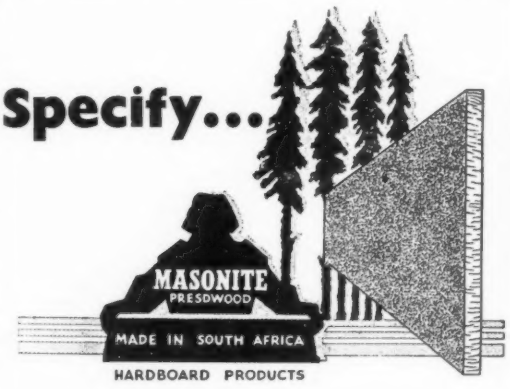
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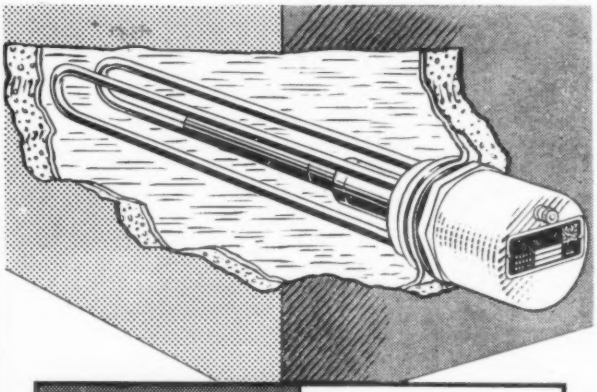
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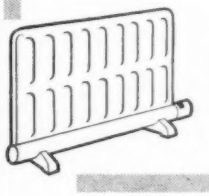
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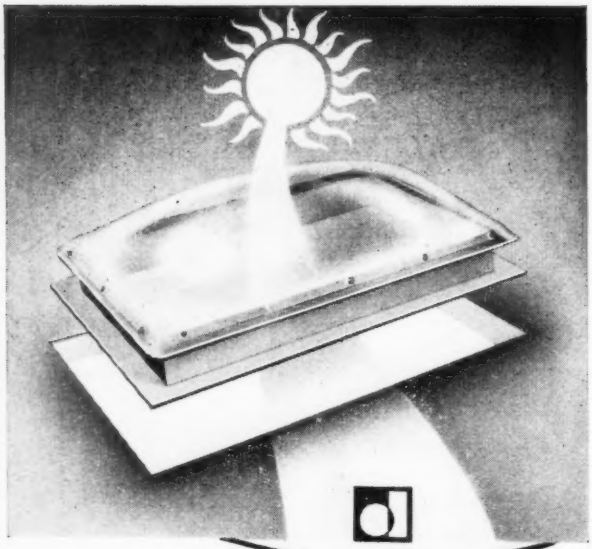
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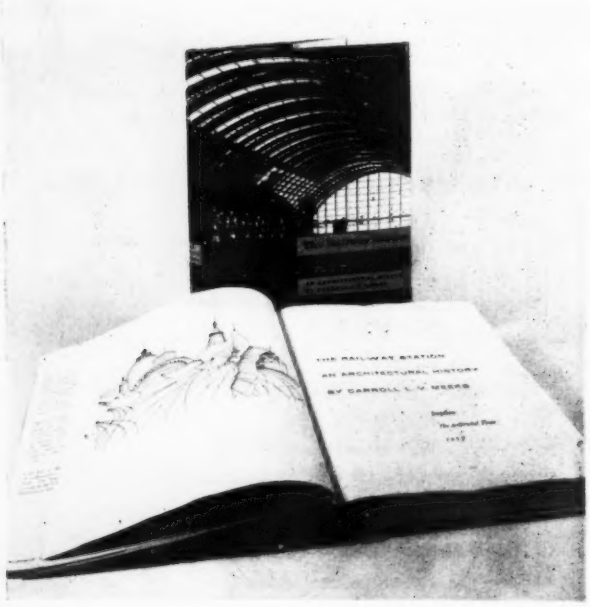
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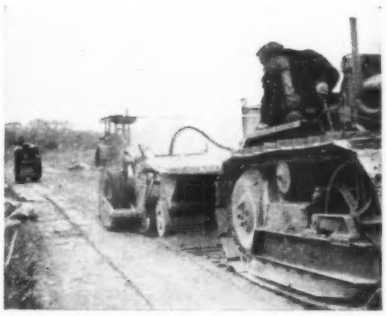
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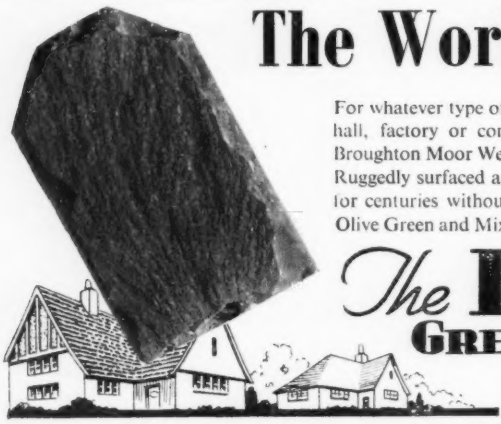
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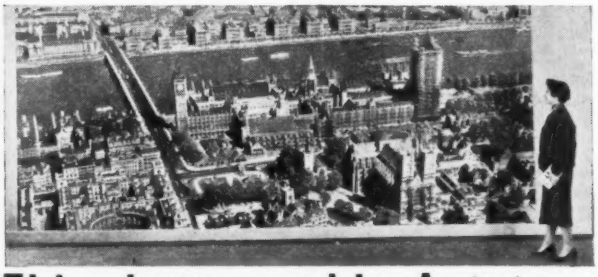
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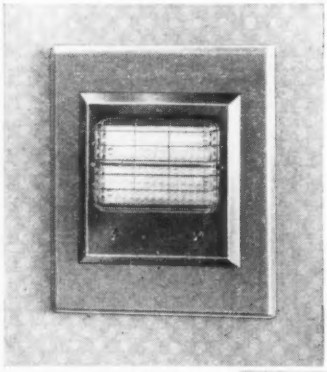
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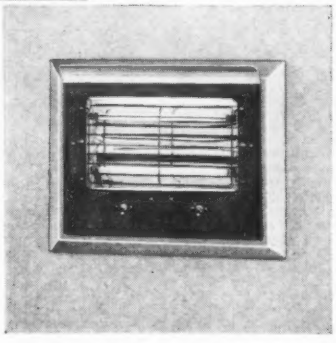
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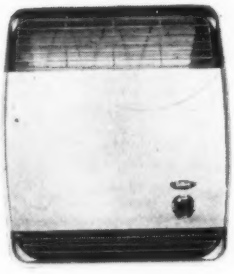


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CLASSIFIED ADVERTISEMENTS

Advertisements should be addressed to the Advt. Manager, "The Architects' Journal," 9, 11 and 13, Queen Anne's Gate, Westminster, S.W.1, and should reach there by first post on Friday morning for inclusion in the following Thursday's paper.

Replies to Box Numbers should be addressed care of "The Architects' Journal," at the address given above.

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BRACKNELL DEVELOPMENT CORPORATION

Applications are invited for the post of JUNIOR ARCHITECTURAL DRAUGHTSMAN in the Department of the Chief Architect. Commencing salary to be in accordance with age and experience up to a maximum of £513 per annum.

Superannuation scheme. Medical examination. Housing available in due course. Apply by 27th May, giving age, education and qualifications, experience and appointments held (with dates and salaries), and two referees, to General Manager (J.A.D.), Bracknell Development Corporation, Farley Hall, Bracknell, Berks. 6179

EAST SUSSEX COUNTY COUNCIL
COUNTY ARCHITECT'S DEPARTMENT

Applications are invited for two appointments as ASSISTANT ARCHITECTS on the permanent staff. Salary Grade A.P.T. V (£814—£994 per annum), commencing within the grade according to ability and experience. Candidates must be Registered Architects.

Applications, stating age, qualifications and experience, and giving the names of two persons to whom reference may be made, to be sent not later than 24th May, 1957 to the County Architect, County Hall, Lewes. 6180

LANCASHIRE COUNTY COUNCIL

SENIOR ASSISTANT ARCHITECT, within the scale £814 17s. 6d.—£994 5s., to work in a Group on Education projects. Experience of Local Government work not essential.

Application forms, obtainable from the County Architect, P.O. Box 26, County Hall, Preston, to be returned by Monday, 27th May, 1957, quoting Ref. A/AJ. 6127

AIR MINISTRY Works Designs Branch requires in London and Provinces ARCHITECTURAL ASSISTANTS experienced in planning/preparation of working drawings and details for permanent and semi-permanent buildings. Salaries in London up to £925 p.a. for men and £849 for women. Somewhat lower in Provinces. Starting pay dependent on age, qualifications and experience. Long term possibilities with promotion and pensionable prospects. Five-day week, 3 weeks 3 days leave a year. Liability for overseas service. Normally natural born British subjects. Write stating age, qualifications, employment details including type of work done, to any Employment Exchange, quoting Order No. Borough 1000. 5602

LONDON COUNTY COUNCIL
QUALIFYING EXAMINATION FOR THE OFFICE OF DISTRICT SURVEYOR

An examination for certificates of proficiency to perform the duties of district surveyor will be conducted in London in the week commencing 14th October, 1957. The minimum age limit for candidates is 25.

Possession of this certificate is necessary for appointment to positions as District Surveyor (salary scales £1,500 to £2,900 a year) or as Assistant District Surveyor (salary scale £1,240 to £1,466 a year).

Subsequent examinations will be held annually.

Apply to the Architect to the Council, (AR/ED/CTB), County Hall, Westminster Bridge, S.E.1, for application forms and further particulars. (621). 5913

LANCASHIRE COUNTY COUNCIL

PLANNING ASSISTANTS required at LIVERPOOL and MANCHESTER, salary within £707 5s. 0d. to £907 2s. 6d.

Applicants should preferably have a qualification in architecture, surveying, engineering and/or planning. Candidates who are studying, however, would be considered for an appropriate lower grade with prospects of promotion. The commencing salary for successful candidates will be according to qualifications and experience.

Applications, stating appointment applied for, giving age, qualifications, present appointment, experience, etc., and two referees to the County Planning Officer, East Cliff County Offices, Preston, by 29th May, 1957. 6279

CITY AND ROYAL BURGH OF EDINBURGH

The Corporation of the City of Edinburgh invite architects practising or resident in Scotland to submit in open competition designs for the development of land at and adjoining Leith Fort, Edinburgh, for residential purposes.

The assessor shall be Professor J. L. Martin, M.A., Ph.D. (Manchester), F.R.I.B.A.

The premium for the design placed first will be 750 guineas, for the design placed second 500 guineas and for the design placed third 350 guineas.

The Conditions will be available after 1st June, 1957, from the Town Clerk, City Chambers, Edinburgh.

The deposit which must accompany all applications for the Conditions will be 2 guineas which will be returned on receipt of a bona fide design.

The last day for the receipt of designs will be 30th November, 1957. 6280

LONDON COUNTY COUNCIL
ARCHITECT'S DEPARTMENT

Vacancy for AREA OFFICER (£987—£1,240 16s.) to be responsible for the efficient running of an area of London in respect of maintenance, repair and small improvements of Council buildings other than housing. Work carried out partly through contractors and partly by direct labour. A.R.I.B.A., or A.R.I.C.S. desirable.

Particulars and application forms, returnable by 31st May, from the Architect (AR/EK/AO/3), County Hall, S.E.1. (864) 6284

NATAL PROVINCIAL ADMINISTRATION
VACANCIES FOR TOWN PLANNING OFFICERS, ON CONTRACT

Applications are invited for appointment as Town Planning Officer on contract for 5 years, if married, or for 3 years, if single, in the Town and Regional Planning Commission, Pietermaritzburg, Natal, South Africa, with salary on the scale £570×£30—£810×£42—£1020 or the scale of £1080×£60—£1260, depending upon qualifications and previous appropriate experience.

2. In addition to basic salary, a temporary cost of living allowance is payable to married men only, at the prescribed Public Service rates. The present rate is £234 per annum but is subject to the regulations governing the payment of the allowance.

3. Candidates must possess a recognized diploma in town planning gained as a post-graduate qualification after obtaining a recognized university degree in civil engineering, architecture or land surveying, and preference will be given to those with some experience of town and/or regional planning practice. Candidates who are in possession of other town planning qualifications may also be taken into consideration. Appropriate post-graduate experience will be taken into consideration in determining the commencing salary on the following basis:—

Nil	£570
One year	£630
Two years	£690
Three years	£750
Four years	£810
Five years	£1080
Six years	£1140
Seven years	£1200
Eight years	£1260

(Candidates with at least five years' experience will be considered for appointment as Town Planning Officer, Grade III, on contract).

4. Transport for the successful applicant and his wife and children, if any, will be paid from his place of residence in the United Kingdom to Pietermaritzburg. He will also be paid an allowance at a rate equivalent to the basic salary payable in respect of the period necessarily occupied in travelling from his place of residence to the place in the Union of South Africa where he is required to assume duty. Upon completion of the prescribed contract period his return passage to the United Kingdom, if so desired, will be paid.

5. Applications should be addressed to the Immigration Attaché, South Africa House, Trafalgar Square, London, W.C.2, from whom the appropriate application forms as well as further detailed information can be obtained. 6282

CITY OF BELFAST

Applications are invited for the following positions in the Housing Architect's Department:—

ARCHITECT CLASS I.

Candidates must be Registered Architects, qualified by examination, experienced in the design and planning of housing estates, particularly flats and ancillary buildings, and possess administrative ability. Successful applicants will be required to take charge of an Architectural Section.

Salary:—£930×2/30×5/40—£1,190.

ARCHITECT CLASS II.

Candidates must be Registered Architects with satisfactory experience in the design and construction of flats, houses, shops and other municipal buildings. Preference will be given to those having appropriate professional qualifications.

Salary:—£585×10/30×3/35—£990.

The commencing salary will be fixed according to qualifications, ability and experience. Superannuation contributions of approximately 6% of remuneration will be payable. Reciprocal pension arrangements exist between the Corporation and other Public Authorities.

Favourable consideration will be given to the recoupment, up to a limit of 50%, of the removal expenses of a newly appointed officer coming to reside in Belfast.

Canvassing will disqualify.

Application forms, etc., are obtainable from the Housing Architect, Townsend House, 97, Townsend Street, Belfast.

Completed applications must reach the undersigned by Monday, 3rd June, 1957.

JOHN DUNLOP, *Town Clerk.*

City Hall, Belfast. P.O. Box 234.
8th May, 1957. 6285

LONDON COUNTY COUNCIL
ARCHITECT'S DEPARTMENT

Vacancy for Grade III (up to £1,036 7s.), for maintenance, repair and small improvements of Council buildings. Experience of alteration work and maintenance work on schedule basis an advantage; A.R.I.B.A. or A.R.I.C.S. desirable.

Particulars and application form, returnable by 31st May, from the Architect (AR/EK/M/2), County Hall, S.E.1. (867) 6283

METROPOLITAN BOROUGH OF HAMPSTEAD require ARCHITECTURAL ASSISTANT (Unestablished), A.P.T. II/III, £609 17s. 6d.–£784 2s. 6d. plus London weighting. Appropriate qualifications required. No housing provided. Applications giving three referees to Town Clerk, Town Hall, Haverstock Hill, N.W.3, by 28th May, 1957. 6235

BOROUGH OF PRESTWICH
APPOINTMENT OF ARCHITECTURAL ASSISTANT

Applications are invited for the above appointment within A.P.T. Grade IV (£727 15s.–£907 2s. 6d.). Housing accommodation available.

Full details of appointment and application forms may be obtained from the office of the Borough Engineer and should be returned to me not later than 31st May, 1957.

C. A. CROSS,
Town Clerk.

Town Hall,
Prestwich,
Lancashire.
6th May, 1957. 6231

UNIVERSITY OF SHEFFIELD

Applications are invited for the post of ARCHITECTURAL ASSISTANT in the Surveyor's Office. Applicants must be suitably qualified and have a sound knowledge of building construction and site supervision. The work includes design of laboratories, lecture rooms, etc., alterations and conversions. The post is permanent and superannuated. Salary £750 p.a. plus child allowance. Applications giving full details of qualifications, experience, and two referees to be sent to the Bursar, the University, Sheffield, 10, within 7 days. 6204

DEPARTMENT OF SCIENTIFIC AND INDUSTRIAL RESEARCH requires two ARCHITECTS (Basic Grade) at Building Research Station, Garston, Herts, for work on experimental building and research in architectural design in light of results of work in laboratory. Qualifications: A.R.I.B.A. and an interest in architectural research. Salary range: £722 (age 25)—£1,130 (men), with reduction below age 25. Lower maximum for women but Equal Pay Scheme. Five-day week.

Forms from M.L.N.S. (K), Technical and Scientific Register, Almack House, 26, King Street, London S.W.1, quoting J60/7A. Closing date 1st June, 1957. 6212

BOROUGH OF HESTON AND ISLEWORTH

Applications are invited for the undermentioned appointments in the Borough Engineer and Surveyor's Department:—

(*a*) SENIOR ARCHITECTURAL ASSISTANT (Grade A.P.T. V—£814 17s. 6d.—£944 5s. per annum).

(*b*) SENIOR ARCHITECTURAL ASSISTANT (Grade A.P.T. IV—£727 15s.—£907 2s. 6d. per annum).

(*c*) ARCHITECTURAL DRAUGHTSMAN (Grade A.P.T. I-II—£543 5s.—£691 17s. 6d. per annum).

London weighting is payable in addition.

Applicants for (*a*) and (*b*) must have had good experience in architectural design and building work under construction, applicants for (*a*) must have passed the examination for the Associateship R.I.B.A. or hold a University degree or diploma in architecture accepted by that Institute, and preference will be given to applicants for (*b*) who are similarly qualified.

Applicants for (*c*) should be capable and expeditious draughtsmen with architectural experience.

The Council is unable to assist with housing accommodation.

Applications are to be submitted by 3rd June, 1957, on forms to be obtained from and returned to the Borough Engineer and Surveyor, 88, Lampton Road, Hounslow.

D. MATHIESON,
Town Clerk.

Town Hall,
Hounslow. 6220

CENTRAL ELECTRICITY AUTHORITY
HEADQUARTERS

Applications are invited for the appointment of CIVIL ENGINEERS at the RESEARCH LABORATORIES, LEATHERHEAD, Surrey, to carry out investigations into the properties of pulverised fuel ash concrete, the applications of such concrete to civil engineering projects, and the further use of p.f. ash. Candidates should have a degree or H.N.C. in Civil Engineering with at least two years' practical experience. Salary £520—£910 per annum according to qualifications and experience. Applications stating age, experience and present salary should be forwarded to D. Moffat, Director of Establishments, Winsley Street, London, W.1, by 21st June, 1957. Quote reference AJ/195. 6223

NORTHERN IRELAND HOUSING TRUST
ASSISTANT ARCHITECT, GRADE I

The Trust invites applications for the post of Assistant Architect, Grade I, on the salary scale £928—£1,018.

Candidates must be Associate Members of the Royal Institute of British Architects.

Preference will be given to ex-service candidates.

The person appointed will be required to participate in a contributory superannuation scheme which allows for the reciprocal transfer of benefits in Local Government Schemes in suitable cases.

Assistance in obtaining housing accommodation may be given in suitable circumstances to the successful candidate.

Please apply not later than 25th May, 1957, giving full details of age, education, qualifications and experience including present post and salary, to the General Manager, Northern Ireland Housing Trust, 12, Hope Street, Belfast.

Please mark envelope 33/60. 6276

NORTH WEST METROPOLITAN REGIONAL HOSPITAL BOARD

Applications are invited for the following appointments :—

(*a*) ASSISTANT ARCHITECT—good experience of design and construction necessary preferably in hospital work. Salary scale £680 × £25 (3) × £30 (2) × £35 (1) × £30 (1) × £35 (3)—£985, plus £20—£40 London weighting.

(*b*) ARCHITECTURAL ASSISTANTS—to give technical assistance to professional officers. Salary scale £510 (age 21 and over) × £20 (5) × £30 (1) × £20 (1) × £25 (2)—£710 plus £20—£30 London weighting.

Applicants for (*a*) above must be Associate Members of the R.I.B.A., and for (*b*) must have Intermediate R.I.B.A. Commencing salary above minimum may be paid to successful candidates according to relevant practical experience appropriate to the posts. Posts are subject to Whitley Council conditions and are superannuable. Apply, stating which post and giving age, qualifications (with dates) and experience, with names of two referees, to Secretary, North West Metropolitan Regional Hospital Board, 11a, Portland Place, W.1, by 3rd June. 6224

WEST SUSSEX COUNTY COUNCIL

Applications are invited for the following appointments :—

(1) SENIOR ASSISTANT ARCHITECT with experience in the construction of load bearing brickwork, reinforced concrete and steel framed buildings, and in the design of panel and partition walling, at a salary in accordance with A.P.T. VI (£902—£1,107). Commencing salary according to experience.

(2) ASSISTANT ARCHITECT at a salary in accordance with A.P.T. III (£707 5s.—£861 if Associates R.I.B.A. and £656—£784 2s. 6d. if not Associates). Commencing salary according to experience.

Further particulars should be obtained from the County Architect, County Hall, Chichester, to whom all detailed applications must be submitted not later than first post on 30th May, 1957.

T. C. HAYWARD,
Clerk of the County Council

County Hall,
Chichester.
4th May, 1957. 6228

BOROUGH OF ABERYSTWYTH ARCHITECTURAL ASSISTANT

The Council invite applications from qualified persons for the post of Architectural Assistant.

The person appointed will be required to examine leasehold properties and prepare Schedules of Works required to be done as a condition of the renewal of the leases; to inspect these works during execution and to carry out other Architectural work.

Salary will be fixed within the range £707—£861 per annum according to experience and qualifications.

Appointment subject to N.J.C. Conditions, Superannuation and Medical Examination.

Applications stating age, qualifications and experience, together with the names of two referees to reach the Borough Surveyor, Park Avenue, Aberystwyth, by Friday, 31st May, 1957.

W. P. DAVIES,
Town Clerk.

Town Hall,
Aberystwyth.
8th May, 1957. 6253

KINGSTON UPON HULL EDUCATION AUTHORITY
REGIONAL COLLEGE OF ARTS AND CRAFTS

Principal: S. I. HEMMING, A.R.C.A. (Lond.), F.R.S.A.

Required in September, 1957, or as soon as possible thereafter, full-time Lecturer in ARCHITECTURE. Candidates should be members of the Royal Institute of British Architects, should possess a Degree or Diploma of a recognised School of Architecture, or similar qualifications, and be qualified to undertake some lectures and supervision of students' work in connection with the five year College Diploma Course which is recognised for exemption from the R.I.B.A. Final examination.

Salary: Burnham Technical Scale—Men £1,200 × £30—£1,350; Women £960 × £24—£1,080, with appropriate equal pay increments.

Permission to engage in private practice is normally granted to members of the College staff.

Further particulars and application forms, to be returned within fourteen days of the date of this issue, will be supplied by the Chief Education Officer, Guildhall, Kingston upon Hull. 6233

CITY ARCHITECT'S OFFICE, MANCHESTER

Applications are invited for the following permanent appointments.

(1) SENIOR ASSISTANT ARCHITECT, Salary A.P.T. Grade V, £814 17s. 6d.—£994 5s.
(2) SENIOR ASSISTANT ARCHITECT, Salary A.P.T. Grade IV, £727 15s.—£907 2s. 6d.
(3) ASSISTANT ARCHITECT or ARCHITECTURAL ASSISTANT. Salary Basic Grade £707 5s.—£861.
(4) ARCHITECTURAL ASSISTANT, Salary A.P.T. Grade I/II, £543 5s.—£691 17s. 6d.
(5) SENIOR ASSISTANT STRUCTURAL ENGINEER, Salary A.P.T. Grade IV, £727 15s.—£907 2s. 6d
(6) STRUCTURAL ENGINEERING ASSISTANT, Salary A.P.T. Grade I/II, £543 5s.—£691 17s. 6d.
(7) SENIOR HEATING VENTILATING AND MECHANICAL ENGINEER, Salary A.P.T. Grade IV, £727 15s.—£907 2s. 6d.
(8) ASSISTANT QUANTITY SURVEYOR, Salary Basic Grade, £707 5s.—£861.

Form and particulars from the City Architect, P.O. Box 488, Town Hall. Returnable by 27th May, 1957. 6214

BOROUGH OF RICHMOND (SURREY) APPOINTMENT OF ARCHITECTURAL ASSISTANT

Salary in accordance with A.P.T. Grade V (£814 17s. 6d.—£994 5s.) plus London weighting. Preference will be given to candidates with experience of multi-storey flat development. Applications from qualified Architects to Borough Engineer and Surveyor, Hotham House, Heron Court, Richmond, naming three referees, by the 27th May, 1957, and stating relationship, if any, to Members of the Council or Senior Officers. No assistance with housing. Canvassing prohibited.

CLIFFORD HEYWORTH,
Town Clerk.

6272

WEST SUFFOLK COUNTY COUNCIL COUNTY PLANNING DEPARTMENT APPOINTMENT OF AREA PLANNING OFFICER

Applications are invited for the appointment of Area Planning Officer. Salary within A.P.T. Grade V of the National Scales £814 17s. 6d.—£994 5s. per annum. Applicants must have passed the Final Examination of the Town Planning Institute or hold a Diploma of a recognised school and will be responsible for development control, development plans, and committee work in the Sudbury Area. N.J.C. service conditions; car allowance; post pensionable; medical examination. Planning administration is centralised in Bury St. Edmunds.

Application forms obtainable from J. M. Gorst, M.T.P.I., A.M.I.Mun.E., County Planning Officer, Shire Hall, Bury St. Edmunds, to be returned by 17th June, 1957.

ALAN F. SKINNER,
Clerk of the County Council.

6256

WARWICKSHIRE COUNTY COUNCIL COUNTY PLANNING DEPARTMENT

Applications are invited for the appointment of a JUNIOR PLANNING ASSISTANT. A.P.T. Grade I/II (£543 5s.—£691 17s. 6d. per annum).

Preference will be given to applicants who have passed the Intermediate Examination of the Town Planning Institute. Entry into Grade II will be conditional on obtaining the Intermediate qualification.

The appointment is subject to the provisions of the Local Government Superannuation Act and to the National Scheme of Conditions of Service.

Applications together with the names of two referees should be sent to J. J. Brooks, County Planning Officer, Northgate, Warwick, not later than Thursday, 23rd May, 1957.

L. EDGAR STEPHENS,
Clerk of the Council.

Shire Hall,
Warwick. 6229

BOROUGH OF OLDBURY BOROUGH SURVEYOR'S DEPARTMENT ARCHITECTS' SECTION

Applications are invited for the following appointments in the Architects' Section of the Borough Surveyor's Department :—

(*a*) CHIEF QUANTITY SURVEYOR, Grade A.P.T. V (£814 7s. 6d.—£994 5s.).
(*b*) ASSISTANT QUANTITY SURVEYOR, Grade A.P.T. III (£656—£784 2s. 6d.).

Candidates for appointment (*a*) should be qualified Quantity Surveyors with a practical knowledge of building contract procedure and experience in the preparation of estimates, bills of quantities, valuations for interim certificates and settling final accounts for all types of local authority building contracts.

Candidates for appointment (*b*) should have reached Intermediate standard of the Royal Institute of Chartered Surveyors, with practical experience in the preparation of bills of quantities and the settlement of builders' accounts.

The appointments will be superannuable, subject to the National Conditions of Service and to the selected candidates passing a medical examination.

Applications, giving particulars of age, qualifications and experience and the names of two referees should be delivered to the undersigned not later than Friday, 7th June, 1957.

Housing accommodation may be considered if desired.

KENNETH PEARCE,
Town Clerk.

Municipal Buildings,
Oldbury,
Nr. Birmingham.
10th May, 1957 6287

CITY OF SHEFFIELD CITY ENGINEER AND SURVEYOR'S DEPARTMENT SENIOR PLANNING ASSISTANT, GRADE A.P.T. V

Applications are invited for the position of Senior Planning Assistant, Grade A.P.T. V (£814 17s. 6d.—£994 5s.), on the staff of the City Engineer and Surveyor and Town Planning Officer (H. Foster, M.I.C.E., M.I.Mun.E.).

Qualifications: A.M.T.P.I., A.R.I.B.A., or A.R.I.C.S.

If housing accommodation is required a flat will be made available.

Superannuable post, N.J.C. conditions of service, medical examination.

Applications, stating age, education and training, qualifications, experience, present and past appointments (with dates and salaries), and quoting the names of two referees, should be submitted to the undersigned by the 27th May, 1957.

JOHN HEYS,
Town Clerk.

Town Hall, Sheffield, 1 6164

CENTRAL ELECTRICITY AUTHORITY HEADQUARTERS

require TWO SECTION LEADERS and TWO SENIOR DRAUGHTSMEN in the Drawing Office of the Chief Engineer's Department, Bankside House, Sumner Street, London, S.E.1, for the CIVIL and the ELECTRICAL SECTIONS. Applicants for the ELECTRICAL vacancies must have had experience on High Voltage transmission.

Salaries according to ability and experience :—
Section Leader, £971—£1,075 p.a.
Senior Draughtsmen, £851—£956 p.a.

Permanent, pensionable appointments, one Saturday morning in eight on duty. Canteen, Sports and Social Club facilities. This year's holiday arrangements honoured.

Applications in writing to D. Moffat, Director of Establishments, Winsley Street, London, W.1. Quote Ref. AJ/199. 6246

THE MINISTRY OF HOUSING AND LOCAL GOVERNMENT require unestablished INSPECTORS (non-pensionable). Duties include the Conduct of Public Local Inquiries in England and Wales into matters arising under the Housing Acts, and the Town and Country Planning Acts. Qualifications, one or more of the following: Registered Architect, Corporate Membership of: R.I.B.A., T.P.I., I.C.E., I.Mun.E., R.I.C.S., Chartered Auctioneers and Estate Agents Institute, Land Agents Society. Practical experience in housing or in town and country planning is essential. Age 35 years or over. Salary (men) £1,365 (at age 40 or over) by £50 to £1,565 by £75 to £1,640. Somewhat lower for women, but being improved under equal pay scheme.

Forms from M.L.N.S., Technical and Scientific Register (K), 26, King Street, London, S.W.1, quoting reference J82/7a. 6213

BOROUGH OF DEAL

Applications are invited from Registered Architects for the position of CHIEF ASSISTANT ARCHITECT in the Borough Engineer's Department

Candidates must have extensive experience of municipal works including housing estate schemes.

Salary will be in accordance with Grade A.P.T. IV. The appointment will be subject to one month's notice on either side and to the provisions of the Local Government Superannuation Acts and medical examination.

The Council will be prepared to assist with housing accommodation if required.

Applications stating age, qualifications, experience, etc., together with the names of three referees should be forwarded to the undersigned not later than May 31st, 1957.

E. S. DIXON,
Town Clerk.

Municipal Offices,
Queen Street,
Deal.
10th May, 1957. 6289

BOROUGH OF ROYAL LEAMINGTON SPA ARCHITECTURAL ASSISTANT GRADE IV/V

Applications are invited for the above post in the Borough Engineer's Department at a salary within A.P.T. Grades IV/V. Starting salary will be subject to qualifications and experience. Candidates must be Corporate Members of the Institute of British Architects.

Housing accommodation will be provided if required.

Further details and forms from the Borough Engineer, to whom completed forms of application must be sent to reach him not later than May 31st, 1957.

JAMES N. STOTHERT,
Town Clerk.

Town Hall,
Leamington Spa. 6259

CITY OF ST. JOHN'S, NEWFOUNDLAND

Applications will be received by the City Engineer, up to May 31st, 1957, for the position of ASSISTANT CITY ENGINEER.

Qualifications and experience—University Degree in Civil Enginering with a minimum of eight years' experience. Application forms and information on salary and other data relating to the position may be obtained from the office of the City Engineer, St. John's, Newfoundland.

R. F. MARTIN,
City Engineer.

6262

ARCHITECTURAL ASSISTANTS with three years' training, experience in Architect's Office, of Intermediate R.I.B.A. standard and with a keen interest in Historic Architecture required by Ministry of Works Historic Buildings and Ancient Monuments Drawing Offices, London. Applicants must have surveying experience and a sound knowledge of construction. Work involves Surveying and Preservation of Ancient Monument and Historic Buildings.

Pay between £500 and £790 per annum, according to age and experience. Five-day week, 3½ weeks annual leave. Prospects of promotion and permanency.

State age, qualifications and experience to Chief Architect, Ministry of Works (D), Room 439, Abell House, London, S.W.1. 6255

COVENTRY CORPORATION

PLANNING CONTROL ASSISTANT. Salary within APT.I/III according to qualifications/experience. Additional local award £26 in approved circumstances. Loan for removal expenses if required. Application forms, etc., from City Architect and Planning Officer, Bull Yard, Coventry, returnable within 10 days publication. 6281

CITY OF CANTERBURY

Applications are invited for the following temporary appointments :—

(*a*) ASSISTANT ARCHITECT, Special Grade (£707 5s.—£861).

(*b*) ARCHITECTURAL ASSISTANTS, Grade A.P.T. II (£609 17s. 6d.—£691 17s. 6d.).

Applicants for appointment (*a*) must have passed Parts I and II of the R.I.B.A. final examination or the equivalent and be competent designers on contemporary work.

Applicants for appointment (*b*) must have passed the R.I.B.A. Intermediate examination.

The successful candidates will be engaged on the design and erection of a new Technical College.

The commencing salary for all positions will be fixed within the Grades according to ability and experience.

Applications, together with the names of two referees, must reach the City Architect & Planning Officer, Mr. J. L. Berbiers, A.R.I.B.A., A.M.T.P.I., not later than Saturday, 1st June, 1957.

Canvassing will disqualify.

J. BOYLE,
Town Clerk.

Municipal Buildings,
Canterbury. 6250

ARCHITECTURAL AND ENGINEERING STAFF (Male or Female) required by the Prison Commission. Salary (men) £500 at age 21, rising to £685 at age 28 then to £790; (women) £500 at age 21, rising to £672 at age 28 and then to £722. Starting pay according to age up to 28. The women's scale is subject to the introduction of equal pay scheme.

Hours 42 per 5-day week. Annual leave 3 weeks 3 days rising to 4 weeks 2 days after 10 years' service.

Qualifications—Architectural Assistants. Recognised training with a good general knowledge of building construction and surveys, preferably up to Intermediate R.I.B.A. standard.

Engineering Draughtsmen. Should preferably have obtained educational training to Ordinary National Certificate in mechanical or electrical engineering course standard or the equivalent in heating and ventilating course.

Appointments in temporary capacity in first instance with prospects of permanency.

Regulations and application forms from Establishment Officer, A 126/2/20, Prison Commission, Horseferry House, Dean Ryle Street, London, S.W.1, to be returned by 31st May, 1957. 6286

STAFFORDSHIRE COUNTY COUNCIL
COUNTY ARCHITECT'S DEPARTMENT

Applications are invited for Architectural Staff on the following salary grades :—

A.P.T. II, £609 18s.—£691 18s.
A.P.T. III, £656—£784 3s.
A.P.T. IV, £727 15s.—£907 3s.

Applicants for Grade IV should be Associates of the R.I.B.A

Applications, together with copies of three recent testimonials should be forwarded to P. Woodcock, F.R.I.B.A., Deputy County Architect, County Buildings, Stafford, not later than Thursday, 23rd May, 1957, giving full details of experience and qualifications and stating age, present salary and grade applied for.

T. H. EVANS,
Clerk of the County Council.

County Buildings,
Stafford.
May 7th, 1957. 6261

SHIPLEY URBAN DISTRICT COUNCIL

Applications are invited for the following appointments in the Surveyor's Department :—

(*a*) ARCHITECTURAL ASSISTANT, A.P.T. Grade V (£814 17s. 6d.—£994 5s.).

Housing accommodation will be provided if required.

(*b*) ARCHITECTURAL DRAUGHTSMAN, Miscellaneous Grades III to V (£456 2s. 6d.—£635 10s.).

The positions are superannuable and subject to the provisions of the National Scheme of Conditions of Service. Commencing salary according to experience and qualifications.

Applications giving age, details of training, qualifications and experience, with the names and addresses of two referees, to the Engineer and Surveyor, Town Hall, Shipley, Yorkshire, by 10 a.m. on Saturday, 1st June, 1957.

ERNEST PEARS,
Clerk and Solicitor. 6257

COUNTY BOROUGH OF HUDDERSFIELD
BOROUGH ARCHITECT AND PLANNING OFFICER'S DEPARTMENT

Applications are invited for the following posts :
CHIEF QUANTITY SURVEYOR (Grade A.P.T. VI, £902—£1,107).
ASSISTANT QUANTITY SURVEYOR (Grade A.P.T. II, £609 17s. 6d.—£691 17s. 6d.).

For post (*a*) preference will be given to Associates of the Royal Institute of Chartered Surveyors and for post (*b*) to applicants who have passed the Intermediate Examination of the Royal Institute of Chartered Surveyors.

The posts are subject to the National Scheme of Conditions of Service, as adopted by the Council, and to medical examination.

Housing accommodation will be provided if required.

Applications with the names of two referees should reach the Borough Architect and Planning Officer, High Street Buildings, Huddersfield, not later than Monday, 3rd June, 1957.

HARRY BANN,
Town Clerk.

Town Hall,
Huddersfield. 6288

Architectural Appointments Vacant

4 lines or under, 9s. 6d.; each additional line, 2s. 6d. Box Number, including forwarding replies, 2s. extra.

CITY Architect requires SENIOR ASSISTANT, capable of complete control substantial industrial and commercial projects. Salary £900—£1,000.—Box 6031.

ASSISTANT ARCHITECTS AND SHOPFITTING DRAUGHTSMEN. Co-operative Wholesale Society, Ltd., invite applications for the following appointments : (1) Assistant Architects capable of preparing working drawings from preliminary details. (2) Shopfitting Draughtsmen with experience in Shop Equipment and modernisation of Interiors.

The posts are pensionable, subject to medical examination. Five-day week in operation. Applications, giving age, details of experience and salary required to W. J. Reed, F.R.I.B.A., Chief Architect, Co-operative Wholesale Society, Ltd., 99, Leman Street, London, E.1. 4977

BRONEK KATZ AND R. VAUGHAN have vacancies for ONE SENIOR ASSISTANT and ONE JUNIOR. First-class draughtsmanship, sketches and presentation essential.—208a, Regent Street, W.1. 6202

TREHEARNE & NORMAN, PRESTON & PARTNERS have vacancies for SENIOR and JUNIOR ASSISTANTS. Salaries according to experience and qualifications.—Apply 83, Kingsway, W.C.2 (HOL. 4071). 5908

CO-OPERATIVE WHOLESALE SOCIETY LTD. ARCHITECT'S DEPARTMENT, MANCHESTER

APPLICATIONS are invited for the following appointments :—(*a*) SENIOR ASSISTANT ARCHITECTS with experience of work on commercial and industrial projects (salary range £820 to £975 per annum). (*b*) ASSISTANT ARCHITECTS capable of preparing working drawings from preliminary details (Salary range £550 to £820 per annum). There is a five-day week in operation and both appointments offer prospects of upgrading. Applications stating age, experience, qualifications and salary required to G. S. Hay, A.R.I.B.A., Chief Architect, Co-operative Wholesale Society Ltd., 1, Balloon Street, Manchester 4. 6023

TWO ARCHITECTURAL ASSISTANTS required, one Senior as group leader, and Junior of Intermediate A.R.I.B.A. or A.R.I.C.S. standard, to be engaged on varied and interesting projects throughout Southern England. Superannuation scheme in operation. Salaries by arrangement, according to age and experience.—Apply Cotton, Ballard & Blow, 5, Baker Street, W.1. WELbeck 3364/7. 6080

SENIOR ASSISTANT urgently required in busy West End office. The appointment offered is a responsible one which requires experience, ability, and a thorough knowledge in commercial design and construction. Please state qualifications and salary required. Holidays by arrangement.—Box 6045.

ARCHITECTURAL ASSISTANT required in private practice in Cotswold rural area. Exceptionally varied work, capable of surveys, working drawings, details, specifications. Car driver. Accommodation available. Practical experience more important than qualifications. State full particulars of experience, salary required, status.—Box 6056.

RUDDLE & WILKINSON, F./L./A.R.I.B.A., have vacancies for

(*a*) SENIOR ARCHITECTURAL ASSISTANT. Must have good office experience.

(*b*) QUANTITY SURVEYING ASSISTANT, of pre-Final standard.

UNFURNISHED FLATS AVAILABLE immediately for both appointments.

Apply : Long Causeway Chambers, Peterborough. 'Phone 5248. 6029

ARCHITECT'S ASSISTANT. Intermediate standard, preferably with practical experience, required in busy South-West London office. —Reply, stating age, salary, and experience, to Box 6103.

EXPERIENCED ARCHITECTURAL ASSISTANTS required for contemporary office. Salary according to experience.—C. H. Elsom, 10, Lower Grosvenor Place, S.W.1. VIC. 4304. 6094

KEEN JUNIOR ASSISTANT required in London office. Should be good draughtsman with sound knowledge of building construction. Box 5951.

WELL KNOWN Home Counties Chartered Architects, with large and varied practice, require a capable experienced ASSISTANT for Drawing Office, salary by arrangement. Box 5859.

COURTNEY, POPE LTD. require SHOPFITTING DRAUGHTSMEN. Write, giving details of experience and salary required to : Amhurst Park Works, London, N.15. 5704

ARCHITECTURAL ASSISTANT, of Intermediate standard, required in busy London office. Must be good draughtsman, with thorough knowledge of construction.

JUNIOR ASSISTANT, with some Drawing Office experience, also required. Might suit young man having just completed his National Service.

Applications to be in writing, stating age, experience, and salary required.—Box 6247.

ARCHITECTURAL ASSISTANT required by Designer of showrooms, exhibitions and interiors.—Ring Putney 3800 or write 12, Tideswell Road, S.W.15. 6258

RAMSEY, MURRAY, WHITE & WARD require recently qualified ASSISTANTS, with two to five years' practical experience, to work on interesting industrial and office buildings. Salary by arrangement.—Apply 32, Wigmore Street, W.1. 5929

SENIOR ARCHITECTURAL ASSISTANT required in Architect's Department of London Brewery Company. Must be good draughtsman. Write stating age, experience, salary required. Box 5156.

ASSISTANT required in southwest country practice. Intermediate standard. Office experience unimportant, but good knowledge of building construction and conscientious attention to detail essential. The work consists mainly of small private housing, and preference will be given to applicants having a special interest in this type of work. A liking for country life is also important, and an aptitude for practical building would be an advantage. Help can be given with family accommodation if needed, after a probationary period. Starting salary up to £403 according to ability, with prospect of early advance upon proof of reliability. Write giving fullest possible particulars to Alec. H. Joy, M.A., B.Arch., A.R.I.B.A., Victoria Place, Kingsbridge, Devon. 6125

TWO ASSISTANTS required in City Architect's Department. Salary range £600—£800 with good prospects of advancement and secure future for suitable applicants. Write giving particulars of experience, age and salary required. Box 6153.

TWO ARCHITECTURAL ASSISTANTS required in London Office for Hospital, School and Office building work. Intermediate standard or higher. Good salary, depending on experience. R. N. Wakelin, Campbell Jones & Sons, 9, Dowgate Hill, E.C.4. 6157

THEO. H. BIRKS, F.R.I.B.A., requires qualified ASSISTANTS to work on contemporary office buildings. Salary in the region of £800 p.a. Five-day week. Telephone LAN 7236 for an appointment. Theo. H Birks, F.R.I.B.A., 38, Portland Place, W 1. 6158

TRIPE & WAKEHAM require ASSISTANTS. Intermediate standard or recently qualified with minimum 3 years' office experience. Salary by arrangement.—Telephone Welbeck 7744, 16, Fitzhardinge Street, Manchester Square, W.1. 6245

MANCHESTER City office wants ASSISTANT, with ability, on the executive side of private practice, to share this work with principal. This is an important position in a medium sized practice, with interesting work and a congenial atmosphere. The right person could soon become a partner.—Box 6251.

ARCHITECTURAL ASSISTANT required by Professional firm in Westminster, R.I.B.A. Inter. Final standard. Post offers wide experience of work being carried out at home and abroad. Salary to be decided on qualifications and experience.—Box 6252

INTERMEDIATE and JUNIOR ARCHITECTURAL ASSISTANTS required for Cotswold Office, with varied practice. State age, experience, and salary required.—Box 6270.

WHITE-COOPER & TURNER require experienced ARCHITECTURAL ASSISTANT. Salary £800—£1,000.—Apply in writing to 5, Verulam Buildings, Gray's Inn, W.C.1. 6275

BASIL SPENCE & PARTNERS require qualified ASSISTANTS, with some experience, for their Edinburgh office. Salary according to experience.—Apply to 40, Moray Place, Edinburgh, 3. 6211

TWO ARCHITECTURAL ASSISTANTS required in varied practice in Buckinghamshire, 30 miles from London. One at Final R.I.B.A. and one at Intermediate R.I.B.A.; also QUANTITY SURVEYOR, at Intermediate standard. 5-day week. Salaries according to age and experience. House available.—Please write, giving full particulars, to Box 6260.

JUNIOR and INTERMEDIATE ARCHITECTURAL ASSISTANT required by Monro & Partners for their London office.—Apply 32, Clarendon Road, Watford. 6265

SENIOR ASSISTANT ARCHITECTS required in West Riding Offices for varied industrial and domestic work. Salary commensurate with experience.—Reply, with full particulars, to Box 6234.

ARCHITECTURAL ASSISTANT wanted for responsible position in small busy West End Office. At least Intermediate standard, with ability in design and working drawings. Holiday arrangements respected.—Reply, stating age, qualifications and salary required, to Box 6236.

SENIOR ASSISTANT required in small busy City Architect's contemporary office. Salary £1,200 per annum. Luncheon vouchers. 5-day week. Holiday this year.—Write Box 6237.

ARCHITECTURAL ASSISTANT required. Intermediate standard, for work on varied projects, including churches, industrial buildings, private dwellings, estate development, agricultural buildings, etc., in Bedfordshire and surrounding counties. — Apply, with details of experience, qualifications and salary required, etc., to Box 6225.

ARCHITECTS in the Bolton area require ASSISTANT between Intermediate and Final standard. Applicants should have completed national service or be otherwise fully exempt. Preference will be given to applicants with experience in Industrial and Commercial work, and should be capable of preparing sketch designs, working drawings and specifications, etc. Salary £416—£624 per annum, according to experience.—Replies, stating age, experience, etc., to Box 6238.

CHARLES B. PEARSON & SON require, both at their Lancaster and Manchester offices, SENIOR QUALIFIED ASSISTANTS, with experience, to be engaged on interesting Hospital and Civic Schemes. Please state salary required. —Application in the first instance to be made to 18, Dalton Square, Lancaster. 6239

ASSISTANT ARCHITECTS required for busy practice in North London, with interesting and varied work. Suit young Architects recently qualified, or Assistants approaching Finals. Initiative encouraged and successful applicants expected to accept responsibility. Commencing salary within range £750—£800 per annum, according to ability.—Write, giving age, training, experience, and qualifications, to Box 6240, or telephone for appointment SHO. 3383.

CITY Architects require SENIOR and JUNIOR ASSISTANTS for interesting work in London and Home Counties.—Write, stating age, experience, and salary required, to Box 6241.

LONDON TRANSPORT requires staff for Architect's Department:—
(*a*) ASSISTANT ARCHITECTS. Salary range: £940—£1,100.
Candidates must be fully qualified, with sound office experience, and be capable of supervising a small number of junior staff.
(*b*) ARCHITECTURAL ASSISTANTS. Salary range: £790—£880.
Candidates must be qualified to R.I.B.A. Intermediate standard and have previous office experience.
(*c*) ENGINEERING ASSISTANTS (STRUCTURAL DESIGN). Salary range: £790—£880.
Training and practical experience in design of steel and/or reinforced concrete as applied to buildings essential.
Duties include calculations for and preparation of working drawings for steel and reinforced concrete frames and other constructional details of buildings, under supervision.
Free travel. Medical examination. 38-hour week. Good dining club and sports facilities.—Applications within 14 days to Recruitment and Training Officer, London Transport, 55, Broadway, S.W.1, quoting vacancy number F/EV 634 (*a*, *b* or *c*). 6219

INTERMEDIATE ASSISTANT required, to run smaller jobs under minimum supervision. Contemporary office and pleasant working conditions. 5-day week. Good prospects for hard worker with initiative. Salary £650—£750 p.a.—Apply Morris de Metz, F.R.I.B.A. CITy 4086. 6227

ASSISTANTS, one Final, one Intermediate standard, required for busy and varied practice. Permanent and progressive posts.—Applications to Charlton & Crowther, 21, Bond Street, Leeds. 6207

ASSISTANT required at once by Architects in North London. Good draughtsman with some experience essential. Salary £600—£700 per annum according to experience. Ring SHO 3383 or write to Box 6122.

ARCHITECTURAL ASSISTANT required immediately for busy commercial factory and hospital practice. Applicants should be recently qualified or approaching R.I.B.A. Final. —Apply in writing, stating age, experience, and qualifications, to W. H. Watkins, Gray and Partners, 1, Clare Street, Bristol, 1. 6210

ONE ASSISTANT of Final standard required for work of general domestic character. Living accommodation available.—Apply, giving details of education, experience and salary, to Edwards & Webster, Chartered Architects, 10, St. Mary Street, Chippenham, Wilts. 6209

SCHERRER & HICKS, 19, Cavendish Square, W.1, require ARCHITECTURAL ASSISTANTS of R.I.B.A. Intermediate standard. Variety of work, including research laboratories, industrial buildings, schools and housing. Must be good draughtsmen with a sound knowledge of building construction. Salary by arrangement. Box 6142.

SLIDING DOOR GEAR.
E. HILL ALDAM & CO., LTD., London, S.W.18, require DRAUGHTSMEN, to detail door gear installations. Previous door gear experience not essential.—Apply Britannic Works, Haslemere Avenue, Earlsfield, S.W.18. 6274

ARCHITECTURAL ASSISTANT. About Intermediate standard. Competent Draughtsman. Sketch schemes, working drawings, surveys. Required in Estate Department of Brewery Company. East Midlands. Superannuation and free B.U.P.A. schemes. State experience. Salary according to ability. Box 6137.

CAMBRIDGE Architect requires ASSISTANT. Newly qualified school-trained man preferred.—Write, with full details and state salary required, Box 6243.

ARCHITECTURAL ASSISTANT required for office with varied contracts. Intermediate or Final standard.—State particulars, salary required, etc., to Gutteridge & Gutteridge, 45, Westwood Road, Southampton. 6230

REQUIRED DRAUGHTSMAN. Freehand essential; period architectural work, etc. 5½-day week—hours 9-5. Good wages.—Apply T. Crowther & Son, Ltd., 282, North End Road, Fulham, S.W.6. Tel. FUL. 1375. 6205

ARCHITECTURAL ASSISTANT with experience required for Design and Contractors Office, Manchester area. Intermediate or Final standard. Interesting work of industrial and commercial nature. Salary: £800—£850. Apply Box 6132.

ASSISTANTS required, to take charge of large contracts. West End office, 5-day week. Salary £900—£1,000.—Box 6208.

ARCHITECTURAL ASSISTANTS with imagination and initiative required immediately by Brighton Office to London practice. Applicants should have progressive ideas and at least two years' office experience after completion of training. Congenial working conditions; five-day week; staff pension scheme. Salary by arrangement. Apply Box 6187.

ASSISTANT ARCHITECTS required in Leicester branch, two permanent positions. Apply in writing to C. Edmund Wilford & Son, F/A.R.I.B.A., 2, Hastings Street, Leicester. 6195

ARCHITECT'S ASSISTANT. Male or Female required. Intermediate standard or equivalent experience. Write stating age, qualifications, experience and salary required. Cordingley & McIntyre, Architects, Owengate, Durham. 6166

ADAMS, HOLDEN & PEARSON require ARCHITECTURAL ASSISTANTS. Write giving particulars of experience and salary required to 38, Gordon Square, W.C.1. 6177

BIRMINGHAM Architects require assistance, whole or part time. Box 6277.

QUALIFIED CHIEF ASSISTANT required, thoroughly experienced in provincial town practice. Salary £800 to £1,000.—F. J. Lenton & Partners, Stamford. 6226

CHIEF ARCHITECTURAL ASSISTANT required for Architects' Department of London Firm of Architects and Surveyors. Holiday arranged.—Write, stating age, experience, and salary required, to Box 6221.

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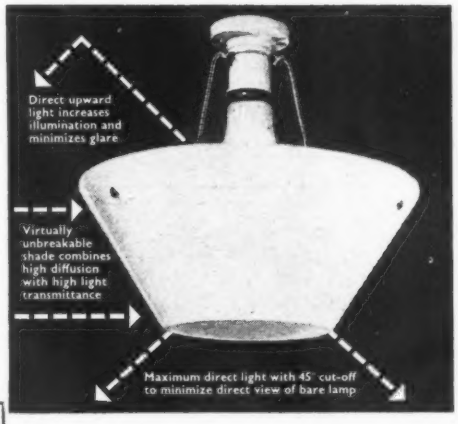
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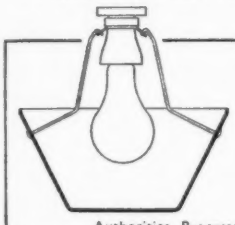
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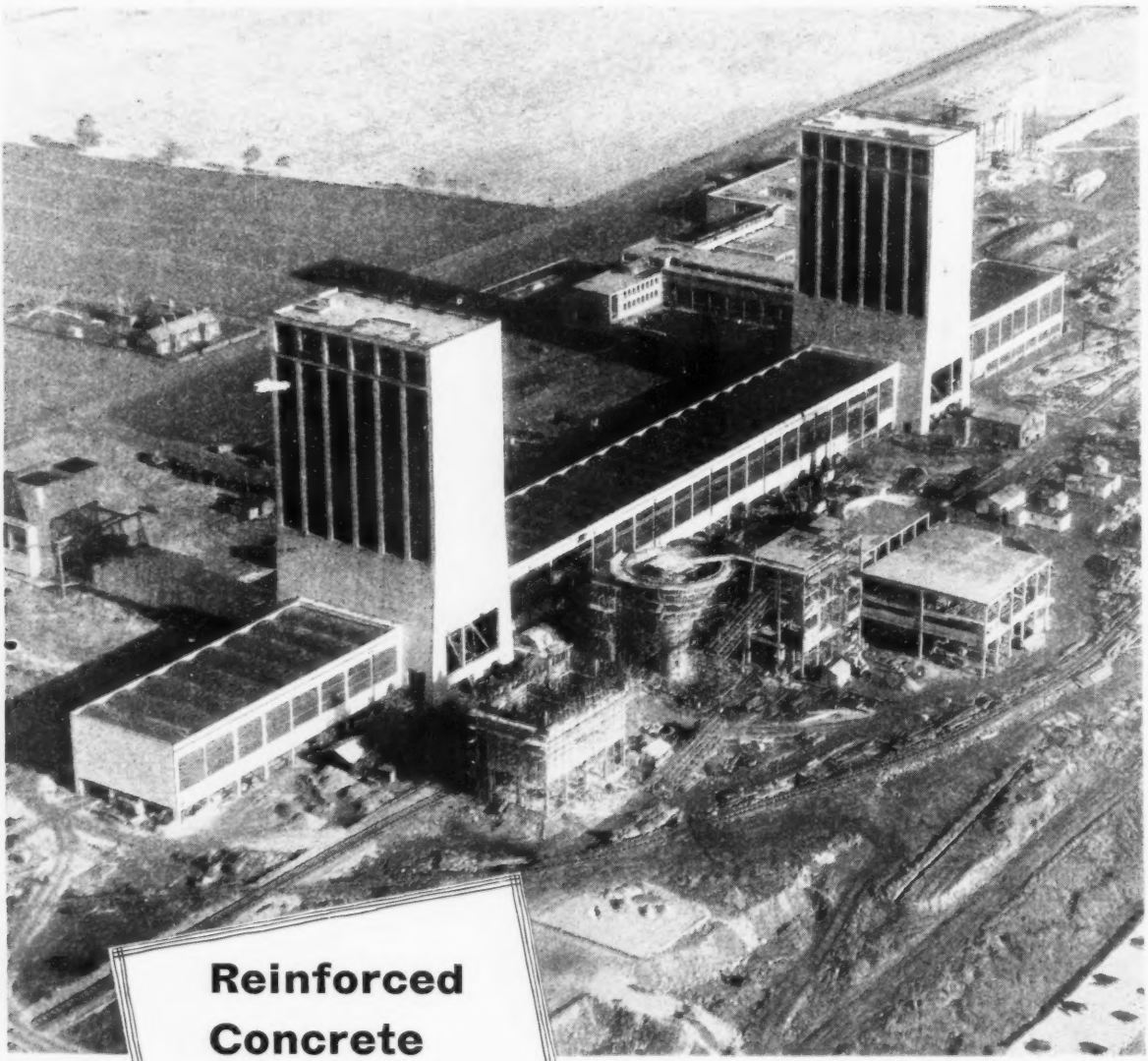
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